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STUDIES IN THE TYRANNIDÆ.

III. THE SOUTH AMERICAN FORMS OF MYIARCHUS.

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*Myiarchus* is one of those involved groups of closely related forms which from the very beginning has been a source of trouble to the systematic ornithologist. With the same pattern of coloration running through the entire group, and such inconspicuous variations in form and proportion, it is little wonder that authors have often failed to appreciate the value of the characters of the specimens they handled, or to differentiate the forms represented. The small amount and usually poor quality of the available material have of course contributed largely towards the confusion from which the present group, in common with many others, has suffered. Mr. Ridgway, in the fourth volume of his great work on "The Birds of North and Middle America," having so satisfactorily elucidated the various forms of *Myiarchus* found in that section, it remains to work out the South American forms on the same lines. The present paper is offered as an attempt toward this end, and has been made possible as a result of the activities of several institutions in various parts of South America in recent years. No less than nine hundred and sixty-three specimens, including considerable typical and topotypical material, have been examined in the course of the present investigation. Of these four hundred and two are in the collection of the Carnegie Museum. The remainder have been loaned by the various institutions specified in Part I of the present series of papers, and our thanks are due to these parties, and also to Dr. Wilfred H. Osgood of the Field Museum of Natural History, Dr. E. W. Nelson of the Bureau of Biological Survey, and to Mr. Thomas E. Penard of Arlington,

Massachusetts, for similar courtesies. We are also indebted to Drs. Charles W. Richmond and Harry C. Oberholser for their kindness in verifying certain references. The present paper is governed by the same conditions as the first of the series.

The South American forms of *Myiarchus* fall naturally into four groups, typified respectively by *M. tyrannulus*, *M. pelzelni*, *M. ferox*, and *M. tuberculifer*. They range from Panama southward to Argentina, throughout the Tropical Zone, while all of the groups except the first have a single representative each in the Subtropical. One species is a winter visitant from eastern North America. *M. pelzelni* is said to be a bird of the campos region in Brazil, but the species in the main are forest-dwellers, with typical flycatcher habits, and nesting in holes in trees, in the well-known manner of *M. crinitus*. Wear and fading affect the color of the plumage greatly, while birds in juvenal and immature dress show more or less decided rufescent edgings on the wings and tail. Great care in making comparisons for geographical differences is thus indicated, while another source of error to be guarded against arises from the circumstance that preserved skins fade out with age, old specimens being appreciably paler than those freshly collected. The diagnoses and descriptions in the present paper are based (unless otherwise specified) on adult specimens in fresh unfaded plumage.

References to the birds of this group are very numerous in the literature of South American ornithology, but the various forms have been so imperfectly understood that the synonymy is exceedingly involved. In many cases it is difficult or impossible to determine from a study of the text what form or forms certain authors had in hand, and it is to be hoped that those European ornithologists who may have access to the specimens (if extant) on which such records were based will look them up and publish their results. The first serious attempt to review the group as a whole was by Coues in 1872. His treatment is very unsatisfactory, partly because of insufficient and poor material, and partly by reason of failure to realize the significance of the characters in this group. In some respects he even left the nomenclature in a more confused state than before. Selater's treatment in Volume XIV of the Catalogue of the Birds in the British Museum (1888) was a great improvement, although he did not recognize subspecies. Mr. Ridgway indi-

cated the true systematic position of some of the South American forms in dealing with the North American members, while Mr. Hellmayr and the late Count von Berlepsch have made sundry contributions to the subject.

In the key which follows *Myiarchus semirufus* Selater has not been included. This species has recently been made the type of a new genus, *Muscifur*, by Messrs. Bangs and Penard. Every one of the diagnostic structural characters claimed for it by these authors we find repeated in typical *Myiarchus*, leaving only the different color-pattern to be considered, and an additional character in what appears to be the rougher scutellation of the tarsi. Whether under the circumstances *Muscifur* deserves recognition is an open question. Probably it would be better to keep its type in *Myiarchus* in spite of its aberrant coloration.

*Key to the South American Forms of Myiarchus.*

- A. Rectrices with more or less cinnamon.
- a. Throat and breast pale neutral gray; posterior under parts brighter yellow.....*Myiarchus crinitus*.
  - a'. Throat and breast pallid neutral gray; posterior under parts paler yellow (*Myiarchus tyrannulus*).
  - b. General coloration darker; upper parts more grayish.
    - c. All the rectrices except the middle pair with broad inner margins of cinnamon, sharply defined from the brownish area.....*Myiarchus tyrannulus tyrannulus*.
    - c'. Outer rectrices with little or no cinnamon, and the cinnamon color not sharply defined on any  
*Myiarchus tyrannulus bahiæ*.
  - b'. General coloration paler; upper parts more greenish  
*Myiarchus tyrannulus pallescens*.
- A'. Rectrices without cinnamon (except sometimes as a narrow external edging).
- a. Larger forms; wing of male averaging not less than 90 mm., of female not less than 85 mm.
  - b. Pileum not strongly contrasted with the back.
  - c. Rectrices without conspicuous paler tips.
  - d. Tail relatively shorter, approximately nine-tenths of the wing; outermost (tenth) primary relatively longer, exceeding or only slightly shorter than fourth; bill weaker and lighter colored.
  - e. Above lighter, more olivaceous.
    - f. Above paler (Saccardo's olive); breast more strongly contrasted with abdomen  
*Myiarchus pelzelni*.

f'. Above darker (dark olive); breast less strongly contrasted with abdomen

*Myiarchus sordidus.*

e'. Above darker, more dusky.....*Myiarchus phæonotus.*

d'. Tail relatively longer, averaging more than nine-tenths of the wing; outermost (tenth) primary relatively shorter, conspicuously shorter than fourth; bill stouter and darker colored.

e. Outermost pair of rectrices without conspicuous paler external margins (*Myiarchus ferox*).

f. Above darker (dark olive).....*Myiarchus ferox ferox.*

f'. Above paler (light olive).

g. Above moderately pale (dull brownish olive).

h. Pileum more brownish

*Myiarchus ferox swainsoni.*

h'. Pileum more dusky

*Myiarchus ferox venezuelensis.*

g'. Above decidedly pale (Saccardo's olive)

*Myiarchus ferox panamensis.*

e'. Outermost pair of rectrices with conspicuous paler external margins.....*Myiarchus cephalotes.*

c'. Rectrices with conspicuous paler tips.....*Myiarchus apicalis.*

b'. Pileum strongly contrasted with the back.

c. Pileum gray anteriorly, becoming black posteriorly

*Myiarchus phæocephalus.*

c'. Pileum wholly black.....*Myiarchus atriceps.*

a'. Smaller forms; wing of male averaging not more than 81 mm., of female not more than 75.5 mm. (*Myiarchus tuberculifer*).

b. General coloration duller; upper parts plain olive, the pileum darker, but not strongly contrasted with the back; gray of under parts deeper (pale neutral gray)

*Myiarchus tuberculifer tricolor.*

b'. General coloration somewhat brighter; upper parts between deep olive and citrine drab, the pileum dusky black, in contrast with the back; gray of under parts lighter (pallid neutral gray).....*Myiarchus tuberculifer tuberculifer.*

b''. General coloration decidedly brighter; upper parts olive citrine, the pileum deeper black in strong contrast; anterior under parts pallid neutral gray

*Myiarchus tuberculifer nigriceps.*

### **Myiarchus crinitus** (Linnaeus).

(South American references only.)

*Myiarchus crinitus* VON BERLEPSCH, Journ. f. Orn., XXXII, 1884, 277, 303 (Bucaramanga, Colombia).—BANGS, Proc. Biol. Soc. Washington, XII, 1898, 137 ("Santa Marta," Colombia).—ALLEN, Bull. Am. Mus. Nat. Hist., XIII, 1900, 142 (Bonda, Colombia).—ALLEN, Auk, XVII, 1900, 364 (Bonda, Colombia; von Berlepsch's and Bangs' records).—

NELSON, Proc. Biol. Soc. Washington, XVII, 1904, 29 ("Santa Marta Mountains," Colombia, winter, in range).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 613 (Colombian localities and references).—HELLMAYR, Proc. Zool. Soc. London, 1911, 1137 (Nóvita and Noanamá, Colombia; range; crit.).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 302 (western Colombia, in range).—CHAPMAN, Bull. Am. Mus. Nat. Hist., XXXVI, 1917, 474 (Noanamá, Puerto Valdivia, and La Manuelita, Colombia).—TODD and CARRIKER, Ann. Carnegie Mus., XIV, 1922, 348 (Santa Marta region, Colombia; localities and references).

*Range*.—Eastern North America, south in winter to northern and western Colombia.

*Remarks*.—The Crested Flycatcher is merely a winter resident in South America, reaching its southern limit at this season in Colombia, where it has been recorded in the Santa Marta region, and in the valleys of the Magdalena, Cauca, Atrato, and San Juan Rivers. It has been taken on November 1 in the fall movement, and as late as April 26 in the spring. The above comprise all the published records of its occurrence in this region we have been able to discover.

*Specimens examined*.—Colombia; Bonda, 1; Mamatoco, 1; El Tambor, 1; Sautata, 2; Quibdo, 1; Andagoya, 1; Total, 7.

*Myiarchus tyrannulus tyrannulus* (Müller).

"*Tyrannus cayanensis minor*" BRISSON, Orn., II, 1760, 400 (Cayenne, French Guiana; descr.).

"*Petit Tyran de Cayenne*" D'AUBENTON, Pl. Enlum., 1770-86, No. 571, fig. 1 (figure).—BUFFON, Hist. Nat. Oiseaux, IV, 1778, 582 (Brisson's reference).

*Muscicapa tyrannulus* MÜLLER, Syst. Nat. Suppl., 1776, 169 (Cayenne, French Guiana; orig. descr.; ex Pl. Enlum. 571, fig. 1).

"*Tyrant Flycatcher, Var. A.*" LATHAM, Gen. Syn. Birds, II, 1782, 358 (Cayenne, French Guiana; descr., etc., ex Buffon).—LATHAM, Gen. Hist. Birds, VI, 1823, 241 (references; descr., etc.).

*Muscicapa aurora* BODDAERT, Table Pl. Enlum., 1783, 34, excl. syn. (D'Aubenton's plate).

*Muscicapa ferox*,  $\beta$  GMELIN, Syst. Nat., I, 1788, 934 (Cayenne, French Guiana, ex Brisson and Buffon).—LATHAM, Index Orn., II, 1790, 485 (references).

"*Suiriri pardo y roxo*" AZARA, Apuntamientos, II, 1805, 143 (Paraguay; descr.; habits).

*Muscicapa flaviventris* VIEILLOT, Ois. Am. Sept., I, 1807, 70, part (descr.; etc.).—STEPHENS, in Shaw's Gen. Zool., X, 1817, 342 (descr.; references).

*Tyrannus ferox* (not *Muscicapa ferox* Gmelin) VIEILLOT, Nouv. Dict. d'Hist. Nat., XXXV, 1819, 78, part (Paraguay, ex Azara).—VIEILLOT, Tabl. Enc. Méth., II, 1822, 848, part (Paraguay, ex Azara).—TEMMINCK, Man. d'Orn., I, 1828, 172 (S. Am.; diag.; ex Swainson).

*Tyrannus crinitus* (not *Muscicapa crinita* Linnæus) D'ORBIGNY and LAFRESNAYE, Mag. de Zool., 1837, Syn. Avium, 43 (Corrientes, Argen-

- tina).—D'ORBIGNY, Voy. Am. Mér., Oiseaux, 1844(?), 306, excl. syn. part (Corrientes, Argentina, and Yungas, Bolivia; descr.; habits; references).—HARTLAUB, Index Azara, 1847, 13 (Azara's reference).  
 (?) *Myiarchus ferox* (not *Muscivapa ferox* Gmelin) TAYLOR, Ibis, 1864, 87 (Trinidad; Orinoco River, Venezuela).  
*Myiarchus tyrannulus* CASSIN, Proc. Acad. Nat. Sci. Philadelphia, 1864, 255 (Müller's reference).—GIEBEL, Thes. Orn., II, 1875, 662 (syn. [part]).—VON BERLEPSCH, Ibis, 1883, 139, note (crit.).—SCLATER and HUDSON, Argentine Orn., I, 1888, 156 (Catamarca, Argentina; descr.).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 251, part (excl. West Indian and Bahia localities and references; descr.; crit.).—(?) DALGLEISH, Proc. R. Phys. Soc. Edinburgh, X, 1889, 79 (Estancia Ytanu, Paraguay; descr. nest and eggs).—KERR, Ibis, 1892, 130 (Fortin Nueve, Rio Pilcomayo, Argentina).—ALLEN, Bull. Am. Mus. Nat. Hist., IV, 1892, 342 (Chapadá, Matto Grosso, Brazil; crit.).—HARTERT, Ibis, 1893, 298, in text (crit.).—CHAPMAN, Bull. Am. Mus. Nat. Hist., VI, 1894, 44 (Princes-town and Monos I., Trinidad).—ROBINSON and RICHMOND, Proc. U. S. Nat. Mus., XVIII, 1895, 673 (El Vallé, Margarita I., Venezuela; descr. nest and eggs).—PHELPS, Auk, XIV, 1897, 365 (Cumaná, Cumanacoa, and San Antonio, Venezuela).—DALMAS, Mém. Soc. Zool. France, XIII, 1900, 139 (Tobago).—KERR, Ibis, 1901, 226 (Waikthlatingmayalwa, Paraguay).—SHARPE, Hand-List Birds, III, 1901, 145 (in list of species; range).—DUBOIS, Syn. Avium, I, 1902, 250 (references; range).—CLARK, Auk, XIX, 1902, 264 (Margarita I., Venezuela).—VON BERLEPSCH and HARTERT, Nov. Zool., IX, 1902, 51 (Altagracia, Caicara, and Ciudad Bolívar, Venezuela).—LILLO, An. Mus. Nac. Buenos Aires, (3), I, 1902, 187 (Tucumán and Tapia, Argentina).—LÖNNBERG, Ibis, 1903, 469 (Tatarenda, Bolivia).—BRUCH, Rev. Mus. La Plata, XI, 1904, 254 (Salta, Oran, Argentina).—BAER, Ornith., XII, 1904, 221 (Santa Ana and Tapia, Tucumán, Argentina).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 610 (diag.; syn.).—LOWE, Ibis, 1907, 118 (Blanquilla I., Venezuela), 563 (Margarita I., Venezuela).—VON BERLEPSCH, Ornith., XIV, 1907, 476 (in list of species).—VON BERLEPSCH, Nov. Zool., XV, 1908, 127 (Cayenne, French Guiana).—LOWE, Ibis, 1909, 318 (Los Testigos Is., Blanquilla I., and Margarita I., Venezuela; Curaçao, Dutch West Indies; meas.; crit.), 322 (Cariaco Peninsula, Venezuela).—CORY, Field Mus. Orn. Series, I, 1909, 231 (Los Testigos Is., Venezuela), 246 (Margarita I., Venezuela).—DABBENE, An. Mus. Nac. Buenos Aires, (3), XI, 1910, 348, part (Argentine localities and range).—PENARD, Vogels Guyana, II, 1910, 260 (Guiana; habits, etc.).—GRANT, Ibis, 1911, 122 (Puerto Asir, Paraguay; Pan de Azucar, Brazil; Colonia Mihanovitch, Argentina).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 302 (ref. orig. descr.; range).—CHUBB, Birds British Guiana, II, 1921, 227, (British Guiana localities; descr.).  
*Myiobius stolidus* (not of Gosse) LEOTAUD, Ois. Trinidad, 1866, 221 (Trinidad; descr., etc.).  
*Myiarchus erythrocerus* SCLATER and SALVIN, Proc. Zool. Soc. London, 1868, 628 (Caracas, Venezuela), 631, part (orig. descr.; no type-locality

- designated; crit.).—WYATT, Ibis, 1871, 333 (Santa Marta, Colombia).—SCLATER and SALVIN, Nom. Avium Neotrop., 1873, 52, part (in list of species; range).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1876, 16 (Maranura, Peru).—SALVIN and GODMAN, Ibis, 1880, 125 (Santa Marta, Colombia).—RIDGWAY, Proc. U. S. Nat. Mus., III, 1880, 15, in text, part (range; crit.).—VON BERLEPSCH, Ibis, 1883, 140, note (crit.).—TACZANOWSKI, Orn. Pérou, II, 1884, 320 (Maranura, Peru, and Cayenne, French Guiana; descr.; crit.; references).—VON BERLEPSCH, Journ. f. Orn., XXXV, 1887, 118 (Paraguay, ex Azara).—SALVADORI, Bol. Mus. Zool. ed Anat. Comp. Torino, X, 1895, No. 208, 11 (Puerto Francia, Paraguay); XII, 1897, No. 292, 16 (Caiza and San Lorenzo, Bolivia).—BANGS, Proc. Biol. Soc. Washington, XII, 1898, 137 ("Santa Marta," Colombia).—ALLEN, Bull. Am. Mus. Nat. Hist., XIII, 1900, 143 (Bonda, Santa Marta, and Cacagualito, Colombia); XXI, 1905, 282 (Bonda, Colombia; descr. nest and eggs).
- Pyrocephalus erythrocerus* GRAY, Hand-List Birds, I, 1869, 362 (in list of species; range).
- Pyrocephalus tyrannulus* GRAY, Hand-List Birds, I, 1869, 363 (in list of species; range).
- Myiarchus crinitus* var. *irritabilis* (not *Tyrannus irritabilis* Vieillot) COUES, Proc. Acad. Nat. Sci. Philadelphia, 1872, 65, part (diag.; Paraguay and Parana; crit.).—BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, II, 1874, 331, part (diag.; range).
- Myiarchus erythrocerus* var. *erythrocerus* RIDGWAY, Proc. U. S. Nat. Mus., I, 1878, 140 (range; meas.; crit.).
- Myiarchus tyrannulus chlorepsciscus* VON BERLEPSCH and LEVERKÜHN, Ornith., VI, 1890, 16 (San Miguel and Cuyabá, Brazil; orig. descr.; type in coll. Kiel Mus.).—VON IHERING, Aves do Brazil, 1907, 293 (ref. orig. descr.).—VON BERLEPSCH, Ornith., XIV, 1907, 476 (in list of species).—HELLMAYR, Nov. Zool., XV, 1908, 53, in text (crit.).—HARTERT and VENTURI, Nov. Zool., XVI, 1909, 203 (Oran, Tucumán, and Mocovi, Argentina; descr. nest and eggs).—BANGS and NOBLE, Auk, XXXV, 1918, 455 (Bellavista, Peru).—CHAPMAN, Bull. U. S. Nat. Mus., No. 117, 1921, 98 (Santa Ana, Peru).
- Myiarchus brevipennis* HARTERT, Bull. Brit. Orn. Club, I, 1892, 12 (Aruba, Curaçao, and Bonaire, Dutch West Indies; orig. descr.; type in coll. Tring Mus.).—HARTERT, Ibis, 1893, 298 (Aruba; crit.), 318 (Savonet, Curaçao), 328 (Bonaire).—SHARPE, Hand-List Birds, III, 1901, 145 (ref. orig. descr.; range).—HARTERT, Nov. Zool., IX, 1902, 300 (range; crit.).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 610, 620 (diag.; range; references).—LOWE, Ibis, 1909, 318, in text (crit.).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 302 (ref. orig. descr.; range).
- Myiarchus oberi* (not of Lawrence) SHARPE, Hand-List Birds, III, 1901, 145, part (Tobago and Margarita Is.).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 302 (ref. orig. descr.; range).
- Myiarchus chlorepsciscus* SHARPE, Hand-List Birds, III, 1901, 145 (ref. orig. descr.; range).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 302 (ref. orig. descr.; range).

- [*Myiarchus*] *tyrannulus*. Var. *chlorepsciscus* DUBOIS, Syn. Avium, I, 1902, 250 (ref. orig. descr.; range).
- [*Myiarchus*] *tyrannulus*. Var. *brevipennis* DUBOIS, Syn. Avium, I, 1902, 250 (ref. orig. descr.; range).
- Myiarchus tyrannus* (*lapsi*) GÆLDI, Bol. Mus. Paraense, III, 1902, 293 (Sarayácu, Ecuador, ex Selater).
- Myiarchus tyrannulus tyrannulus* CLARK, Proc. Boston Soc. Nat. Hist., XXXII, 1905, 276 (Colombia; Margarita I., Venezuela; crit.).—HELLMAYR, Nov. Zool., XIII, 1906, 26 (Chaguaramas and Laventille, Trinidad; Tobago; Cumaná and Orinoco River, Venezuela).—CHERRIE, Mus. Brooklyn Inst. Sci. Bull., I, 1908, 364 (Pointe Gourde, Trinidad); II, 1916, 243 (Las Barrancas, Ciudad Bolivar, and Caicara, Venezuela; descr. nest and eggs).—CHAPMAN, Bull. Am. Mus. Nat. Hist., XXXVI, 1917, 474 (La Playa, Colombia).—BEEBE, Zoologica, II, 1919, 232 (Bartica District, British Guiana).—TODD and CARRIKER, Ann. Carnegie Mus., XIV, 1922, 347 (Santa Marta region, Colombia; references; crit.; habits).
- Myiarchus mexicanus chlorepsciscus* VON BERLEPSCH and STOLZMANN, Ornith., XIII, 1905, 89 (Santa Ana, Peru; crit.).
- Myiarchus tyrannulus brevipennis* HELLMAYR, Nov. Zool., XIII, 1906, 26, in text (crit.).—VON BERLEPSCH, Ornith., XIV, 1907, 476 (in list of species).—CORY, Field Mus. Orn. Series, I, 1909, 200 (Aruba), 207 (Curaçao), 212 (Bonaire), 216 (Los Roques I.), 225 (Blanquilla I., ex Lowe).
- (?) *Myiarchus oberi nugator?* RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 619 (Tobago; crit.).
- (?) *Myiarchus tyrannulus tobagensis* HELLMAYR, Verh. Orn. Ges. Bayern, XII, 1914, 89 (Man-of-War Bay, Tobago; orig. descr.; type in coll. Munich Mus.).

*Description.*—Above deep grayish olive, the pileum more or less shaded with brownish olive; wings dusky, the primaries with narrow external edgings of argus brown, and the secondaries similarly margined with dull white or cream color, the margins becoming wider on the tertiaries, and all the remiges with buffy inner margins; greater and middle wing-coverts narrowly edged and broadly tipped with dull whitish or deep olive buff, forming two bands across the wing; upper tail-coverts buffy brown or dull olive brown, with more or less conspicuous margins of argus brown; tail dusky, with indistinct paler brown tip and narrow pale outer margins to the outer rectrices; all the rectrices except the central pair with the inner webs largely cinnamon brown; throat pallid neutral gray, deepening into light gull gray on the breast, and passing into naphthalene yellow on the abdomen and crissum, the sides and flanks shaded with greenish; under wing-coverts naphthalene yellow; "iris brown; feet and bill black."

In juvenal dress the upper parts are dull grayish brown, the rectrices (including the middle pair) are more or less cinnamon on both webs, the secondary edgings are largely rufescent, the wing-coverts are tipped with buffy or rufescent, and the under parts from the breast down are almost white, with only a faint yellow tinge.



## MEASUREMENTS.

	<i>Wing.</i>	<i>Tail.</i>	<i>Bill.</i>	<i>Tarsus.</i>
Five males from Colombia	(93-95)94	(84-87)85	(18.5-20)19.3	(21.5-24.5)22.5
Five males from Venezuela	(95-99)97	(89-94)90	(19.5-20.5)20.2	(22.5-24)23
Five males from Curaçao	(91-95)93.5	(81-85)84	(20-21)20.4	(22-23)22.4
Five males from French Guiana	(91-94)92	(80-82)81	(18-20)19	(21-23)21.8
Five males from Matto Grosso and Paraguay	(92-99)95	(83-90.5)87	(19.5-21)20	(20.5-23)21.8
Five males from Bolivia	(93-101)98	(87-92)89.5	(19.5-21.5)20.3	(21-23)22.2
Five males from Argentina	(97-100)98	(90-92)91	(19-21)20	(21.5-23)22.3
Five females from Colombia	(87-90)89	(81-85)83	(18.5-20)19.2	(20-22.5)21.5
Five females from Venezuela and Trinidad	(89-92)90.5	(82-88)84	(18.5-20.5)19.8	(20.5-24)22.4
Two females from Curaçao	(89-91)90	(84-85)84.5	(19.5-20)19.7	(22-22.5)22.3
Five females from French Guiana	(86-89)88	(76-80)78	(18.5-19)18.7	(20.5-22)21.3
Five females from Matto Grosso and Paraguay	(89-94)91.5	(82-87)84.6	(18.5-20)19.4	(21.5-23)22.1
Five females from Bolivia	(92-98)94.5	(82-90)87	(19-20)19.4	(21-22.5)21.8
Four females from Argentina	(90-99)94	(82-87)85	(18.5-19.5)19.1	(20-21.5)21

*Range.*—From Central Argentina northward through Paraguay, western Matto Grosso, Bolivia, Peru, and Ecuador (east of the Andes), to Venezuela (including the Dutch West Indies), thence eastward to Guiana, and westward to northern Colombia.

*Remarks.*—The above description is based on specimens in fairly fresh plumage and average condition. A great deal of variation obtains in the series examined—more than suffices in other species of *Myiarchus* to discriminate racial differences, but it is individual and seasonal, certainly not geographical. In worn plumage the upper parts fade out to brownish, while in perfectly fresh dress there is often an olivaceous cast to the feathers above, and the yellow below is purer. A bird from Colombia (No. 38,829, Collection Carnegie Museum) is very pale above (citrine drab), while another from Argentina (No. 141,744, Collection American Museum of Natural History) is unusually dark (near dark olive), and between these extremes there is every possible degree of variation. We note, too, that the age of the specimens themselves has considerable to do with their shade of color. A series from Matto Grosso, Brazil, collected by Herbert H. Smith in 1885-86, are markedly duller and paler than specimens in comparable condition secured in the same general region in more recent years, and the same is true of the series from the Santa Marta region collected by Mr. W. W. Brown in 1898-99 as compared with Mr. M. A. Carriker, Jr.'s later material from the same place. Consequently care must be exercised in comparing such specimens.

Eliminating young and worn specimens, therefore, and using only such as are in fact comparable, we can find no sufficient ground for separating a series from the Caribbean coast region of Colombia from another from

Venezuela and French Guiana. Specimens from the latter country are toptotypical, and average a little smaller than usual, while those from Venezuela are a little larger, but the difference is not excessive. Birds from the Dutch West Indies have been separated by Dr. Hartert on the ground of smaller size and generally paler color above. As shown by the above table of measurements, examples from Curaçao are actually larger than those from the type-locality, while we can not verify the alleged color-differences after a careful study of our series. Two birds from Tobago are not distinguishable in any way either, so far as we can see. Comparing now these northern birds, considered collectively, with a good series from Brazil (Matto Grosso), Bolivia, and Argentina, we fail to distinguish the latter by any constant characters. The form *chlorepsciscus* was based on just three specimens from Matto Grosso, but the characters assigned are of absolutely no diagnostic value in view of the large amount of variation obtaining in this species. At first glance it would seem as if southern birds had rather more cinnamon rufous in the tail than northern, but further study shows that this feature is inconstant, and varies in all parts of the range. There are specimens from Colombia, Venezuela, Guiana, and Brazil which have very little cinnamon rufous in the tail, thus approaching the race *bahia*. In the series from Matto Grosso there is a perfect gradation from specimens having a broad inner rufous margin to the outer rectrices to those showing none at all, and which could be referred to *bahia* just as well as not. Allen has already remarked on this variation, but it must be added that some of the specimens on which he based his remarks turn out to be *pelzelni*. Taking everything into consideration, therefore, we can not discover any good reasons for recognizing any geographical races of this species except *bahia* and *palleescens*, since the slightly larger size of more southern birds is such a small matter. The present form has a rather peculiar range, not passing beyond the Andes anywhere except in the Caribbean coast district of Colombia, but apparently extending southward along the east base of the Andes into Peru, Bolivia, and Argentina, leaving the greater part of Brazil to be occupied by the race *bahia*, with which it intergrades in Matto Grosso. Light and dark birds occur throughout this extensive range, and have no geographical significance.

*Myiarchus tyrannulus* has had an eventful nomenclatural history. It was described by Brisson in 1760 and independently figured by D'Aubenton a few years later, the figure serving as the basis for Müller's name, applied in 1776, and for Boddaert's in 1783. Latham and Gmelin considered it as a "variety" of what is now known as *Myiarchus ferox*. Vieillot described it under still another name. D'Orbigny and Lafresnaye confused it with the North American *M. crinitus*, and Coues made it a variety of that form. Cassin was the first to point out the priority of Müller's name in 1864, but it was misapplied until revived by Selater in 1888, the species having in the meantime been again christened by Selater in 1868 as *erythrocerus*. We have already discussed the status of the supposed subspecies *chlorepsciscus*, *brevipennis*, and *tobagensis*.

*Specimens examined*.—Colombia: Bonda, 5; Cautilito, 1; Mamatoco, 5; La Tigrera, 4; Fundacion, 6; Rio Hacha, 3; Turbaco, 4; Palmar, 4; "Santa

Marta Mts.,” 21; San Francisco, 1; La Playa, 1. Dutch West Indies: St. Patrick, Curaçao, 1; Savonet, Curaçao, 8. Venezuela: Ciudad Bolívar, 8; Agua Salada de Ciudad Bolívar, 5; Maripa, 6; El Llualgal, 6; San Felix, 2; El Callao, 2; San German de Umeta, 1; San Esteban, 1; Aroa, 1; Tocuyo, 2; El Trompillo, 6; Sierra de Carabobo, 1; Margarita Island, 7; Puerto Cabello, 1; El Cuji, Lara, 2; Tucacas, Falcon, 3; Cristobal Colon, Paria Peninsula, 4; Cumanacoa, 1; San Antonio, 3; Cumaná, 1; Las Barrancas, 1; Caicara, 9; Maipures, 1. Trinidad: Carenage, 1; Pointe Gourde, 1; Princetown, 1. Tobago, 2. British Guiana: Annai, 2; unspecified, 1. Dutch Guiana: Coast near Diana Creek, 4. French Guiana: Cayenne, 1; Mana, 10. Peru: Bellavista, 1; Santa Ana, Urubamba Valley, 1. Bolivia: Puerto Suarez, 1; Rio Parapeti, 1; Yacuiba, 6; Rio Dolores, 5; Rio Surutu, 1; Palmarito, 1; Buenavista, 1; Rio Grande, Prov. Santa Cruz, 1; Mission San Antonio, Rio Chimore, Prov. Cochabamba, 1; Todos Santos, Prov. Cochabamba, 2; Chilon, Prov. Santa Cruz, 1; Vermejo, Prov. Santa Cruz, 1. Brazil: Chapada, Matto Grosso, 24; Urucum, Matto Grosso, 7; Belvedere de Urucum, 1. Paraguay: Fort Wheeler, Paraguayan Chaco, 2; Rio Negro, 3; Puerto Pinasco, 2; unspecified (Parana River), 2. Argentina: Rio Bermejo, 5; Miraflores, 1; Embarcacion, 2; Concepcion, Tucumán, 1; Timoca, Tucumán, 1; Tafi Viejo, Tucumán, 3; Salta, Oran, 1; Las Palmas, Chaco, 2; Ocampo, Chaco, 3; Chaco de Salta, 1; Mocovi, Chaco Santa Fé, 1; Tapia, Tucumán, 1; Tafi Trail, Tucumán, 6. Total, 254.

*Myiarchus tyrannulus bahiæ* von Berlepsch and Leverkühn.

- Muscicapa ferox* (not of Gmelin) WIED, Beiträge Naturg. Bras., III, 1831, 855 (Rio [Janeiro], Cabo Frio, and Campos dos Goaytacases, Brazil; descr.).
- Myiarchus ferox* BURMEISTER, Syst. Ueber. Thiere Bras., II, 1856, 470, part (Brazil; descr. male).—VON PELZELN, Orn. Bras., ii, 1869, 116, part (localities in Brazil; crit.).—(?)REINHARDT, Vidensk. Med. Nat. For. Kjobenhavn, 1870, 141, part (Lagoa Santa, Brazil; crit.).
- (?)*Myiarchus crinitus* var. *irritabilis* (not *Tyrannus irritabilis* Vieillot) COUES, Proc. Acad. Nat. Sci. Philadelphia, 1872, 65, part (Bahia, Brazil).
- Myiarchus nigriceps* (not of Sclater) ALLEN, Bull. Essex Inst., VIII, 1876, 79 (Santarem, Brazil).
- Myiarchus tyrannulus* (not *Muscicapa tyrannulus* Müller) SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 251, part (Bahia, Brazil).—(?)TRISTRAM, Cat. Coll. Birds, 1889, 124 (Brazil).—RIKER and CHAPMAN, Auk, VII, 1890, 270 (Santarem, Brazil).—KÖENIGSWALD, Journ. f. Orn., XLIV, 1896, 360 (São Paulo, Brazil).—VON IHERING, Rev. Mus. Paulista, III, 1898, 204, excl. extralimital localities, part, and V, 1902, 314 (São Paulo, Brazil).—HAGMANN, Bol. Mus. Gœldi, IV, 1904, 46, part (Burmeister's reference), 89 (von Pelzel's reference).—VON IHERING, Aves do Brazil, 1907, 293, part (localities in southern Brazil).—SNETHLAGE, Bol. Mus. Gœldi, VIII, 1914, 388 (Monte Alegre, Brazil; diag.).
- Myiarchus bahiæ* VON BERLEPSCH and LEVERKÜHN, Orn. VI, 1890, 17, in text (Bahia [type-locality] and Goyaz, Brazil; orig. descr.; type in coll.—?).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 302 (ref. orig. descr.; range).

*Myiarchus tyrannulus bahiæ* VON IHERING, Aves do Brazil, 1907, 294 (Bahia, Brazil).—VON BERLEPSCH, Ornith., XIV, 1907, 476 (in list of species).—HELLMAYR, Nov. Zool., XV, 1908, 53 (Goyaz and Rio Araguaya, Brazil; meas.; crit.).—HELLMAYR, Abhand. K. Bayerischen Akad. Wiss., Math.-phys. Kl., XXVI, 1912, 90 (Rio Muriá, Brazil, ex Natterer; crit.).—VON IHERING, Rev. Mus. Paulista, IX, 1914, 442 (Joazeiro, Brazil; descr. eggs).

*Subspecific characters.*—Similar to *Myiarchus tyrannulus tyrannulus*, but cinnamon rufous area on tail not sharply defined from the dusky, and almost or quite wanting on the two outermost feathers on each side.

*Measurements.*—Male: wing, 92–99 (average, 95); tail, 83–91 (86); bill, 19.5–21.5 (20.5); tarsus, 21.5–24 (23). Female (five specimens): wing, 92–97 (93); tail, 84–87 (85); bill, 18.5–20.5 (20); tarsus, 20.5–23 (21).

*Range.*—Brazil, from the lower Amazon Valley to São Paulo (except the Ceará region).

*Remarks.*—It would seem as if von Berlepsch and Leverkühn did not place much faith in their new form, since they failed to describe it formally. It is a perfectly good race, however, quite distinct from the typical form, having a differently colored tail. As a rule the outer pair of rectrices, and often also the next pair, are without rufous, but sometimes there is a narrow edging of this color on the inner web of the feathers. Birds of this type are occasional anywhere in the range of *tyrannulus*, but in central and eastern Brazil they are found to the exclusion of the other (so far as known). With an unusually fine series at our command we can discover no other characters for the separation of *bahiæ*, which should undoubtedly stand as a subspecies of *tyrannulus*.

*Specimens examined.*—Brazil: Santarem, 20; Itaituba, 1; Apacy, 1; Obidos, 8; Serra de Euré, 2; Serra de Paituna, 1; Monte Alegre, 2; Cametá, Rio Tocantins, 1; Bahia, 1; Itarare, São Paulo, 1; Victoria, São Paulo, 2; Bebedouro, São Paulo, 1; Itapura, São Paulo, 1. Total, 42.

#### *Myiarchus tyrannulus pallescens* Cory.

*Myiarchus tyrannulus pallescens* CORY, Field Mus. Orn. Series, I, 1916, 343 (Jua, Ceará, Brazil; orig. descr.; type in coll. Field Mus.).

*Subspecific characters.*—Similar to *Myiarchus tyrannulus tyrannulus*, but coloration in general paler, and upper parts more greenish.

*Measurements.*—Male (two specimens): wing, 94–95; tail, 86–87; bill, 19–20; tarsus, 21–22.

*Range.*—Known only from the type-locality, in extreme northeastern Brazil.

*Remarks.*—In view of the extent of the area over which *bahiæ* ranges without varying it is surprising to find a different form inhabiting a comparatively restricted area in extreme northeastern Brazil. Although only two specimens have been examined in this connection, they apparently represent a valid race. The throat and breast are a shade paler gray (pallid neutral gray) than in *bahiæ*, and the upper parts are obviously paler and more greenish (near citrine drab), with the pileum decidedly brownish.

There is also more cinnamon rufous on the rectrices than in *bahia*, this especially obvious on the outer pair basally. The yellow of the posterior under parts is about the same.

*Specimens examined*.—Brazil: Jua, Ceará, 2.

### *Myiarchus pelzelni* von Berlepsch.

*Myiarchus tyrannulus* (not *Muscicapa tyrannulus* Müller) COUES, Proc. Acad. Nat. Sci. Philadelphia, 1872, 71, part (Bahia, Brazil).—BARROWS, Bull. Nuttall Orn. Club, VIII, 1883, 202 (Concepcion, Uruguay).

*Myiarchus pelzelni* VON BERLEPSCH, Ibis, 1883, 139 (Bahia, Brazil; orig. descr.; type in coll. H. von Berlepsch).—REICHENOW and SCHALOW, Journ. f. Orn., XXXIV, 1886, 87 (reprint orig. descr.).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 125 (Bahia, Brazil, and Oyapoc, French Guiana; descr.; crit.).—VON BERLEPSCH and LEVERKÜHN, Orn. VI, 1890, 17 (Pontinho and Bahia, Brazil; crit.).—SHARPE, Hand-List Birds, III, 1901, 145 (in list of species; range).—OBERHOLSER, Proc. U. S. Nat. Mus., XXV, 1903, 135, in text (crit.).—VON BERLEPSCH and STOLZMANN, Orn. XIII, 1905, 89 (Santa Ana, Peru; meas.; crit.).—NICOLL, Ibis, 1906, 668 (Itaparica I., Brazil; habits; crit.).—VON IHERING, Aves do Brazil, 1907, 294 (Bahia, Brazil).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 612 (diag.; references).—VON BERLEPSCH, Orn. XIV, 1907, 477 (in list of species).—VON BERLEPSCH, Nov. Zool., XV, 1908, 128 (Oyapoc, French Guiana, ex Sclater).—PENARD, Vogels Guyana, II, 1910, 261 (Cayenne, French Guiana).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 303 (ref. orig. descr.; range).—HELLMAYR, Abhand. K. Bayerischen Akad. Wiss., Math.-phys. Kl., XXVI, 1912, 110, 120 (Fazenda Nazareth, Mexiana I., Brazil; range; meas.; crit.).—SNETHLAGE, Bol. Mus. Gældi, VIII, 1914, 389 (Boim, S. Natal, and Mexiana I., Brazil; diag.).—CHAPMAN, Bull. U. S. Nat. Mus., No. 117, 1921, 99 (von Berlepsch and Stolzmann's record).

*Myiarchus ferocior* CABANIS, Journ. f. Orn., XXXI, 1883, 214 (Tucumán, Argentina; orig. descr.; type in coll. Berlin Mus.).—REICHENOW and SCHALOW, Journ. f. Orn., XXXIV, 1886, 87 (reprint orig. descr.).

*Myiarchus ferox* (not *Muscicapa ferox* Gmelin) ALLEN, Bull. Am. Mus. Nat. Hist., IV, 1892, 346, part (Chapada, Matto Grosso, Brazil; crit.).—NICOLL, Ibis, 1904, 40, part (Bahia, Brazil).—DABBENE, An. Mus. Nac. Buenos Aires, (3), XI, 1910, 348, part (range).

*Myiarchus swainsoni* var. *pelzelni* DUBOIS, Syn. Avium, I, 1902, 251 (ref. orig. descr.; range).

*Myiarchus ferox ferocior* HARTERT and VENTURI, Nov. Zool., XVI, 1909, 203 (Barracas al Sud and Ocampo, Argentina; crit.; descr. eggs).

*Myiarchus fortirostris* TODD, Proc. Biol. Soc. Washington, XXVI, 1913, 171 ("Provence del Sara" [i. e., Buenavista], Bolivia; orig. descr.; type in coll. Carnegie Mus.).—CHAPMAN, Bull. Am. Mus. Nat. Hist., XXXVI, 1917, 475 (Florencia, Colombia, and east Peru; crit.).

*Myiarchus cephalotes* (not of Taczanowski) CHAPMAN, Bull. U. S. Nat. Mus., No. 117, 1921, 98, part (Chauillay, Urubamba Cañon, Peru).

*Description.*—Above Saccardo's olive, the pileum more brownish, the sides of the head deeper brown, in more or less abrupt contrast; wings dusky brown, the middle and lesser coverts margined and tipped with olive buff, the inner primaries and secondaries margined externally with cartridge buff, in gradually increasing amount; inner webs of remiges margined with pale buffy; upper tail-coverts Saccardo's umber; tail dusky brown, with indistinct paler tip and edgings; throat and breast pallid neutral gray; rest of under parts sulphur yellow (including under wing-coverts); "iris brown; feet black; bill brown above, paler brown below."

## MEASUREMENTS.

	<i>Wing.</i>	<i>Tail.</i>	<i>Bill.</i>	<i>Tarsus.</i>
Two males from Brazil	(87-92)89.5	(78-80)79	(17-17.5)17.3	(20-20.5)20.3
One male from Bolivia	100	88	17	22
Seven males from Argentina	(97-103)99	(86-92)89.5	(17.5-19)18.3	(21-22.5)21.7
Five females from Brazil	(84-88)86	(75-87)80	(16-17.5)16.5	(19-21.5)20
Four females from Bolivia	(92-94)93	(81-82)81.5	17.5	(20.5-21.5)21
One female from Argentina	96	85	17	22

*Range.*—From Guiana south to Buenos Aires, Argentina, and west to the Andes.

*Remarks.*—Immaturity is indicated in specimens with rusty cinnamon edgings to the remiges and rectrices, and buffy under tail-coverts. Entirely aside from this, however, and from the effects of wear, there is much variation, affecting the general coloration and the size and shape of the bill. In some examples, notably the type-specimen of *Myiarchus "fortirostris,"* this member is shorter, stouter, and relatively higher, with the culmen more rounded and the tip less strongly hooked than is usually the case in *Myiarchus*. Normally the upper parts in fresh plumage are as described, Saccardo's olive, but occasionally they incline to grayish—in one specimen (No. 284,412, U. S. National Museum, Victorica, Argentina) being almost mouse gray. The yellow of the under parts is sometimes very pale or barely indicated, and sometimes tinged with dull greenish. Wear and fading produce marked changes in color also.

How many of the earlier *Myiarchus* records for South America east of the Andes may pertain to the present form it is impossible to say, but it is likely that a species with such a wide range must occasionally have fallen under the eye of ornithologists. At any rate, Coues in 1872, with a specimen before him, failed to recognize it, and it was not until 1883 that von Berlepsch pointed out its distinctive characters. His description appeared in the *Ibis* for April of that year, while in the *Journal für Ornithologie* of ostensibly even date Cabanis described a new species of the same group under the name *Myiarchus ferocior*. We find, however, in the issue of the latter journal a reference to the receipt of the April number of the *Ibis*, which would give von Berlepsch's name a slight priority. By most authors, however, *ferocior* has been either ignored or misapplied, and while Messrs. Hartert and Venturi have apparently placed it correctly on the form to which it belongs, they make the mistake of considering it a subspecies of

*ferox*, with which it has clearly nothing to do, being in fact merely a slightly larger race of *pelzelni*, very doubtfully worthy of formal recognition. Again in 1913, with only a single specimen of rather unusual character before him, the present writer was misled into perpetrating another synonym for the same bird, comparing it with specimens of *Myiarchus ferox swainsoni* from Paraguay which had been erroneously determined. In order to settle the status of *fortirostris* beyond question, topotypical specimens were recently sent to Mr. C. E. Hellmayr for comparison with Cabanis' type of *ferocior*, and he reports that they are the same.

While it is true that Argentine specimens are larger than those from northern Brazil, there appears to be no difference in color. No sexed specimens in good condition from Bahia, the type-locality, are available at this writing, but taking the series as a whole the propriety of recognizing two forms, based wholly on difference in size, is questionable, and we prefer to refer them to a single variable species, easily recognized by its generally paler, more uniform coloration as compared with any of the forms of *ferox*, as well as by its different proportions. In *ferox* the wing is but little longer (occasionally even shorter) than the tail, with a very short tip, and short outermost primary, always decidedly shorter than the fourth. In *pelzelni* the wing is relatively longer, approximately one-tenth more than the tail, with a longer tip, and longer outermost primary, exceeding the fourth or but little less. The bill, too, averages smaller and paler, more brownish, in color. In all these characters of form and proportion the species agrees with *M. sordidus* and *M. phæonotus*, these three comprising a group by themselves within the genus.

*Habits.*—*Myiarchus pelzelni* is preeminently a species of the campos region, instead of the deep forest. Mr. M. J. Nicoll, who met with it on Itaparica Island, near Bahia, says that it "was found singly or in pairs among the clumps of mango-trees which grow in abundance in the open glades of the forest. At a distance it is easily mistaken for *M. ferox*." Prof. Barrows intimates that in Uruguay it is a migratory species; he speaks of finding a "loose nest of hair, feathers, etc., in a hollow stub five feet from the ground. It contained three eggs which in color and markings were precisely like those of *M. crinitus*, but a little smaller." A similar description is given by M. Venturi.

*Specimens examined.*—Colombia: Florencia, Caqueta, 1. Peru: Chauillay, Urubamba Cañon, 1; unspecified, 1. Bolivia: Buenavista, 2; Cercado de Santa Cruz, 1; Río Surutu, 3; Río Dolores, 1; Todos Santos, 1; Trinidad, Río Mamoré, 1. Argentina: Miraflores, 1; Río Bermejo, Chaco Central, 1; Ocampo, 1; Barracas al Sur, 1; Formosa, 2; Las Talas, 1; Concepcion, Tucumán, 1; Victoria, 2. Uruguay: Concepcion, 3. Brazil: Chapada, Matto Grosso, 9; Tapirapoan, Matto Grosso, 1; Urucum, Matto Grosso, 1; Bahia, 5; Santa Maria, Mexiana I., 1; Cachoeira, Río Purús, 1. Total, 43.

#### ***Myiarchus sordidus* Todd.**

*Myiarchus sordidus* TODD, Proc. Biol. Soc. Washington, XXIX, 1916, 96 (El Trompillo, Carabobo, Venezuela; orig. descr.; type in coll. Carnegie Mus.).

*Myiarchus ferox venezuelensis* (not of Lawrence) CHERRIE, Mus. Brooklyn Inst. Sci. Bull., II, 1916, 244, part (Ciudad Bolivar, Venezuela).

*Description.*—Above dark olive; pileum subcrested, with darker centers to the feathers; upper tail-coverts tinged with rusty; auricular region tinged with brownish; wings brown, with slight paler outer edgings, more prominent and whitish on the inner secondaries, the middle and greater coverts edged and tipped with grayish brown, forming two indistinct wing-bands; tail deep brown, the rectrices with obscure external edgings of rusty brown, the outermost pair with narrow buffy white external margins; throat and breast pale neutral gray; abdomen and under tail and wing-coverts primrose yellow, much tinged with olivaceous laterally and anteriorly; tibiae dull brown; bill above brown (in skin), paler below; feet black; "iris seal brown" (Cherrie).

*Measurements.*—Female (four specimens): wing, 88–90 (average, 89); tail, 81–84 (82.5); bill, 16–18 (16.8); tarsus, 19.5–20 (19.7). (No adult males seen).

*Range.*—Northern Venezuela and Guiana, south to Rio Grande do Sul, southern Brazil.

*Remarks.*—In immature dress, represented by several specimens, the crissum is washed with buffy cinnamon, and the remiges and rectrices are more or less broadly edged with rusty cinnamon, as in other species of this group. Of the series of five specimens from the type-locality, the type itself is the only fully adult bird.

This species has nothing to do with *M. ferox venezuelensis*, with which it has been carefully compared, being much paler, dingier, duller, and more greenish yellow below and under the wings; the gray of the throat and breast is not abruptly defined posteriorly, but merges gradually into the greenish yellow color and tinges it for a considerable distance, especially on the sides, giving a shaded olivaceous effect; the back is of a purer olivaceous, with the head merely a little browner, the ear-coverts the same; there is no grayish color about the eyes or lores; the bill, too, is shorter, weaker, and paler in color. Moreover, the wing-formula is entirely different, the tenth (outermost) primary being nearly equal to or even longer than the fourth, instead of decidedly shorter, while the tail is always decidedly shorter than the wing. In all its proportions *M. sordidus* thus resembles *M. pelzelni*, but differs in being very much darker colored throughout.

At the time this form was described it was supposed to be confined to a restricted area in northern Venezuela, but such proves not to be the case. Additional specimens have turned up in the collections of other institutions, not only from the Orinoco region and British Guiana, but also from the lower Amazon Valley (Santarem to Pará), and even from the States of São Paulo and Rio Grande do Sul, southern Brazil. As this extensive range embraces territory in which *M. pelzelni* is also found, they must be distinct species, although related. It is true that *pelzelni* varies considerably in color, but the specimens here referred to *sordidus* are obviously out of place in a series of that species, while agreeing fairly well among themselves. At the same time additional material from Brazil is very desirable in order to



fully establish the status of the present form, which seems to have gone unrecognized until recently, having passed for *ferox* for the most part, as shown by an inspection of the labels attached to the specimens. The soiled greenish yellow color of the posterior under parts, in connection with the proportions of the bill, wings, and tail, is a uniform characteristic of the form in question.

*Specimens examined.*—Venezuela: El Trompillo, Carabobo, 5; Ciudad Bolivar, 1; Agua Salada de Ciudad Bolivar, 1. British Guiana: Annai, 1. Brazil: Benevides, 1; Santarem, 1; Piassaguera, São Paulo, 1; Santa Maria River, Rio Grande do Sul, 2; Rio Negro, Parana, 1. Total, 14.

***Myiarchus phænotus* Salvin and Godman.**

*Myiarchus phænotus* SALVIN and GODMAN, Ibis, 1883, 207 (Merumé Mountains, British Guiana; orig. descr.; type now in coll. Brit. Mus.).—SALVIN, Ibis, 1885, 298 (Mount Roraima, 3500 feet, British Guiana).—REICHENOW and SCHALOW, Journ. f. Orn., XXXIV, 1886, 87 (reprint orig. descr.).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 255 (Mount Roraima and Merumé Mountains, British Guiana; descr.; references).—SHARPE, Hand-List Birds, III, 1901, 146 (in list of species; range).—DUBOIS, Syn. Avium, I, 1902, 251 (ref. orig. descr.; range).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 612, note (crit.).—VON BERLEPSCH, Ornith., XIV, 1907, 477 (in list of species).—PENARD, Vogels Guyana, II, 1910, 261 (Guiana; descr.).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 303 (ref. orig. descr.; range).—CHUBB, Birds British Guiana, II, 1921, 229 (British Guiana references and localities; descr.).

*Description.*—Above between deep and dark grayish olive, passing into dusky brownish on the pileum and sides of the head; wings dusky brownish, the coverts and secondaries with paler (light grayish olive) edgings, becoming nearly white on the tertiaries; inner margins of remiges dull whitish; upper tail-coverts and tail dusky brownish; throat and fore breast pale neutral gray; rest of under surface and under wing-coverts Marguerite yellow; bill (in skin) dark brown above, paler below; feet black.

*Measurements.*—Male (one specimen): wing, 93; tail, 84; bill, 17.5; tarsus, 20.

*Range.*—Mount Roraima and Merumé Mountains, British Guiana.

*Remarks.*—This proves to be a very distinct form, having nothing to do with *M. ferox*, as suggested by Mr. Ridgway, but belonging in the same group as *M. pelzelni* and *M. sordidus*, having the same small bill, relatively short tail, and long outer primary. It is nearest the latter, but is decidedly darker above, and has evidently been developed on the higher elevations of British Guiana, where it was discovered by Whately in 1881.

*Specimens examined.*—British Guiana: Merumé Mountains, 1.

***Myiarchus ferox ferox* (Gmelin).**

“*Tyrannus cayanensis*” BRISSON, Orn., II, 1760, 398 (Cayenne, French Guiana; descr.).

- "Tyrant Flycatcher" LATHAM, Gen. Syn. Birds, II, 1782, 357 (descr.; excl. Buffon ref.).—LATHAM, Gen. Hist. Birds, VI, 1823, 241, excl. syn. part (descr.; references).
- Muscicapa ferox* GMELIN, Syst. Nat., I, 1789, 934, part (ex Brisson and Latham; diag.).—LATHAM, Ind. Orn., II, 1790, 485 (diag.; references [part]).—LESSON, Traité d'Orn., 1831, 382 (in list of species).
- Tyrannus ferox* VIEILLOT, Nouv. Dict. d'Hist. Nat., XXXV, 1819, 78, part (Cayenne, French Guiana; descr.).—VIEILLOT, Tabl. Enc. Méth., II, 1822, 848, part (French Guiana; descr.; references).
- Tyrannula ferox* (?)HARTLAUB, Syst. Verz. Nat. Samm. Ges. [Bremen], 1844, 49, excl. syn. ("Sudamerica").—BONAPARTE, Consp. Avium, I, 1850, 190, excl. syn. part (in list of species).
- Myiarchus ferox* VON TSCHUDI and CABANIS, Fauna Peruana, Aves, 1846, 153 (Peru; descr.).—CABANIS, Arch. f. Naturg., 1847, 248 (in list of species).—SCLATER, Cat. Am. Birds, 1862, 233, part (Pará, Brazil; references).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1867, 578 (Mexiana I., Brazil).—VON PELZELN, Orn. Bras., ii, 1869, 116, part (Engenho do Cap. Gama, Borba, Marabitanas, Forte do Rio Branco, and Rio Muriá, Brazil; crit.).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1873, 281 (Xeberos, Chamicuros, and Santa Cruz, Peru; descr. nest and eggs).—SCLATER, Ibis, 1887, 318 (Maccasseema, British Guiana).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 253, part (records and references from eastern Peru, northern and eastern Brazil, etc.; descr.; crit.).—RIKER and CHAPMAN, Auk, VII, 1890, 270 (Santarem, Brazil).—GÆLDI, Aves do Brazil, ii, 1894, 326 (Brazil; descr. nest and eggs).—GÆLDI, Bol. Mus. Paraense, I, 1896, 339 (Rio Muriá, Pará, Brazil, ex Natterer), 346 (Mexiana I., Brazil, ex Wallace).—SHARPE, Hand-List Birds, III, 1901, 145, part (in list of species; range).—DUBOIS, Syn. Avium, I, 1902, 250, part (in list of species; range).—GÆLDI, Ibis, 1905, 172 (Pará, Brazil).—NICOLL, Ibis, 1906, 668 (crit.).—VON BERLEPSCH, Orn. XIV, 1907, 477 (in list of species).—SNETHLAGE, Journ. f. Orn., LVI, 1908, 503 (Goyana and I. do Papageio, Rio Tapajoz, Brazil), 528 (Arumatheua, Rio Tocantins, Brazil).—VON BERLEPSCH, Nov. Zool., XV, 1908, 128 (Cayenne, Roche-Marie, Approuage, and Ile le Pere, French Guiana).—SNETHLAGE, Bol. Mus. Gældi, VI, 1909, 229 (range).—PENARD, Vogels Guyana, II, 1910, 261 (Guiana; descr.).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 302, part (ref. orig. descr.; range).—SNETHLAGE, Bol. Mus. Gældi, VIII, 1914, 388 (localities in lower "Amazonia"; descr.).
- Myiobius ferox* GRAY, Gen. Birds, I, 1847, 248, excl. syn. (in list of species).
- Myiarchus tyrannulus* (not *Muscicapa tyrannulus* Müller) SCLATER and SALVIN, Nom. Avium Neotrop., 1873, 52, part (in list of species; range).—ALLEN, Bull. Essex Inst., VIII, 1876, 79 (Santarem, Brazil).—FORBES, Ibis, 1881, 343 (Quipapa to Garanhuns, Brazil; habits).—(?)SALVIN, Cat. Strickland Coll., 1882, 314 ("S. America"; references).—TACZANOWSKI, Proc. Zool. Soc. London, 1882, 22 (Yurimaguas, Peru).—TACZANOWSKI, Orn. Pérou, II, 1884, 321, excl. syn. part (Yurimaguas; descr.; crit.).
- Myiarchus tyrannulus* var. *tyrannulus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, II, 1874, 330, part (diag.; references; range).

*Myiarchus cantans* (not of von Pelzeln) VON BERLEPSCH, Ibis, 1883, 140, in text (Bahia, Brazil).

*Myiarchus* (lapsus) *ferox* GÆLDI, Bol. Mus. Paraense, III, 1902, 293 (Amazon records, ex Sclater).

*Myiarchus* (lapsus) *ferox* GÆLDI, Album Aves Amazonicas, 1906, pl. 35, fig. 2 (lower Amazon).

*Myiarchus ferox ferox* RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 612 (diag.; references).—HELLMAYR, Nov. Zool., XVII, 1910, 301 (Calama, Rio Madeira, Brazil; von Pelzeln's records; crit.).—HELLMAYR, Abhand. K. Bayerischen Akad. Wiss., Math.-phys. Kl., XXVI, 1912, 109 (Fazenda Nazareth, Mexiana I., Brazil; crit.), 120 (Mexiana references).—OBERHOLSER, Proc. Indiana Acad. Sci., 1918, 304 (diag.; ref. orig. descr.; meas.; range; crit.).

(?) *Myiarchus ferox insulicola* HELLMAYR, Verh. Orn. Ges. Bayern, XII, 1915, 202 (Man-of-War Bay, Tobago; orig. descr.; type in coll. Munich Mus.).—OBERHOLSER, Proc. Indiana Acad. Sci., 1918, 305 (diag.; ref. orig. descr.; crit.).

*Myiarchus cephalotes* (not of Taczanowski) CHAPMAN, Bull. U. S. Nat. Mus., No. 117, 1921, 98, part (Rio San Miguel, 4500 ft., Peru).

*Description*.—Above dark olive, the pileum darker and more sooty, the rump rather paler; wings dusky brown, the greater and middle coverts edged and tipped with dull buffy or grayish olive, the inner primaries and the secondaries margined externally with light buff, in gradually increasing amount, and all the remiges with inner margins of dull buffy; upper tail-coverts and tail dusky brown, with paler tip and external edgings of brownish olive; sides of head neutral gray; throat and breast light neutral gray; rest of under parts and under wing-coverts sulphur yellow; "iris brown; bill and feet black."

This description is based on specimens in absolutely fresh dress. Wear affects the plumage greatly, dulling all the colors, the yellow below fading greatly. In juvenal dress the colors are all duller, and the remiges and rectrices are margined with Brussels brown.

*Measurements*.—Male: wing, 87–92 (average, 89); tail, 84–91 (87.5); bill, 18–20 (19); tarsus, 21–23 (22). Female: wing, 83–89 (86); tail, 82–92 (85); bill, 17.5–19 (18.5); tarsus, 21–23 (22).

*Range*.—French and Dutch Guiana, southern Venezuela, and Amazonian Colombia, south to eastern Peru, and east and south to Bahia, Brazil. (Tobago?).

*Remarks*.—Brisson gave a very full and accurate description of this form in 1760, which became the chief basis for Gmelin's name *ferox*. This name seems to have been correctly applied by most of the earlier authors, up to 1869 at least, when J. E. Gray placed it as a synonym of the *tyrannulus* of Müller—a misidentification which was unfortunately followed by Coues in 1872, and has led to much confusion since. The late Count von Berlepsch was the first to point out this mistake in 1883, while Sclater undertook to restore the proper names to both forms in 1888, and to allocate the references accordingly. Sclater, however, "lumped" all the races of this species under one name, and his treatment is thus unsatisfactory.

In this, the typical race, the general coloration averages considerably deeper than in any of the other known forms, as shown by a comparison of freshly collected specimens. Old skins are almost invariably faded, and worn specimens are not suitable for comparison either. Some British Guiana skins seem to be nearer to this form, while others are indistinguishable from *venezuelensis*. Specimens from the upper Orinoco and Amazonian Colombia are also best referred here, as well as those from Peru. Fresh Bahia skins are certainly typical *ferox*, and not *swainsoni*, which indicates the limit of the form in this direction.

Mr. Hellmayr has described the bird from Tobago as a distinct race, *insulicola*, on the ground of larger size and darker coloration. The single specimen (unsexed) we have been able to examine from this island measures: wing, 90; tail, 89; bill, 20; tarsus, 19.5. It is thus no larger than many French Guiana skins, nor is it any darker colored, allowing for its rather worn plumage. The posterior under parts, however, are much duller and paler than the average, but are approached by some Guiana specimens. The rusty color on the rectrices is significant of immaturity. The outer web of the outer rectrix, however, is markedly paler than in any specimens of *ferox* in the series consulted, and this may be a good character. It will require a series to demonstrate the validity of this supposed form, in our opinion.

*Specimens examined.*—French Guiana: Cayenne, 11; Mana, 27; Pied Saut, 3. Dutch Guiana: Meerzorg, 1; Parako Sarammatta, 1; Geyersvlyt, 1. British Guiana: unspecified, 1. Venezuela: Boca de Sina, Cunucunuma R., upper Orinoco, 2. Colombia: La Morelia, 2; Florencia, 1. Peru: Candamo, 1; Rio San Miguel, 1. Brazil: Benevides, 4; Santarem, 22; Colonia do Mojuy, 1; Villa Braga, 1; Apacy, 2; Obidos, 2; Islands, Obidos, 2; Avojutuba, Rio Negro, 4; Monte Alegre, 1; Conceição, 1; Isla do Papageio, 1; Isla de Goyana, 1; Arumatheua, 2; Terra Nova, Rio Iriri, 1; St. Antonio da Cachoeira, 1; Sta. Maria, Mexiana I., 1; Mexiana I., 1; Rio Maicuru, 1; Manacapuru, 1; Forte Ambé, Rio Xingu, 1; Bom Lugar, Rio Purús, 2; Flor do Prado, 2; Bahia, 6. Total, 112.

#### ***Myiarchus ferox swainsoni* Cabanis and Heine.**

*Tyrannus ferox* (not *Muscicapa ferox* Gmelin) SWAINSON, Quart. Journ. Sci., XX, 1826, 276 (Brazil; descr.; crit.).—(?)D'ORBIGNY and LAFRESNAYE, Mag. de Zool., 1837, Syn. Avium, 43 (Chiquitos, Santa Cruz, and Yungas, Bolivia).—D'ORBIGNY, Voy. Am. Mér., Oiseaux, 1844(?), 306, excl. syn. part (Yungas, Moxos, and Santa Cruz de la Sierra, Bolivia; diag.).

*Muscicapa ferox* (not of Gmelin) WIED, Beitr. Nat. Bras., III, ii, 1831, 855 (descr.).

*Myiarchus ferox* (?) BURMEISTER, Syst. Ueber. Thiere Bras., II, 1856, 470, part (Brazil; descr. female; crit.).—EULER, Journ. f. Orn., XV, 1867, 228 (Cantagallo, Brazil; descr. nest and eggs).—VON PELZELN, Orn. Bras., ii, 1869, 116, part (localities in southern Brazil; crit.).—REINHARDT, Vidensk. Med. Nat. For. Kjobenhavn, 1870, 141, part (Lagoa Santa, Brazil; crit.).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 253, part (localities and references for Bolivia, southern Brazil, and Argen-

- tina).—SCLATER and HUDSON, Argentine Orn., I, 1888, 156, excl. syn. part (Punta Lara, Mendoza, and Buenos Aires, Argentina; descr.; crit.).—FRENZEL, Journ. f. Orn., XXXIX, 1891, 122 (Cordoba, Argentina).—KERR, Ibis, 1892, 130 (Rio Pilcomayo, Argentina).—ALLEN, Bull. Am. Mus. Nat. Hist., IV, 1892, 346, part (Chapada, Matto Grosso, Brazil; crit.).—HOLLAND, Ibis, 1893, 469, 487 (Estancia Sta. Helena, Media Luna, Soler-F. C. al Pacifico, Argentina; migr.; habits).—APLIN, Ibis, 1894, 180 (Santa Elena, Uruguay; habits).—SALVADORI, Boll. Mus. Zool. ed Anat. comp. Torino, X, No. 208, 11 (Clubia Rizzo and Puerto Pagani, Paraguay).—KERR, Bull. Brit. Orn. Club, VI, 1896, 20 (Villa Concepcion, Paraguay).—KÆNIGSWALD, Journ. f. Orn., XLIV, 1896, 360 (São Paulo, Brazil).—NEHRKORN, Kat. Eiersammlung, 1899, 142 (descr. eggs).—VON IHERING, Rev. Mus. Paulista, III, 1899, 204, excl. syn. part (S. Sebastião, S. Carlos do Pinhal, and Piquete, São Paulo, Brazil).—EULER, Rev. Mus. Paulista, IV, 1900, 51 (descr. nest and eggs).—VON IHERING, Rev. Mus. Paulista, IV, 1900, 156 (Cantagallo and Nova Friburgo, Brazil), 237 (ref. descr. nest and eggs); V, 1902, 314 (São Paulo, Brazil).—(?)LILLO, An. Mus. Nac. Buenos Aires, (3), I, 1902, 187 (Tapia, Tucumán, Argentina).—OBERHOLSER, Proc. U. S. Nat. Mus., XXV, 1903, 135 (Sapucay, Paraguay; crit.).—OATES and REID, Cat. Birds' Eggs Brit. Mus., III, 1903, 210 (Argentina; descr. eggs).—(?)LILLO, Rev. Letras y Cien. Soc. (Tucumán), 1905, p. 17 of reprint (Tapia, Tucumán, Argentina).—VON IHERING, Rev. Mus. Paulista, VI, 1904, 326 (Paraguay).—HAGMANN, Bol. Mus. Gœldi, IV, 1904, 253, part (Burmeister's reference), 286, part (von Pelzeln's reference).—VON IHERING, Aves do Brazil, 1907, 294, part (localities in southern Brazil).—CHUBB, Ibis, 1910, 595 (Sapucay and Ybitimi, Paraguay; descr. nest).—DABBENE, An. Mus. Nac. Buenos Aires, (3), XI, 1910, 348, part (Argentine references and localities).—GRANT, Ibis, 1911, 123 (Argerichi, Puerto San Juan, Desaguadero, Sapetero Cué, and Fuerto Olimpo, Paraguay; Riacho Paraguay, Rabicho, and Boca de Homiguera, Brazil; habits).
- Myiarchus swainsoni* CABANIS and HEINE, Mus. Heineanum, II, 1859, 72 (Brazil; orig. descr.; type in coll. F. Heine; references).—SCLATER, Cat. Am. Birds, 1862, 233 (Bolivia and Brazil; references).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1869, 161 (Buenos Aires, Argentina; crit.).—CABANIS, Journ. f. Orn., XXII, 1874, 89 (Cantagallo, Brazil).—GIEBEL, Thes. Orn., II, 1875, 662 (ref. orig. descr.; references).—HEINE and REICHENOW, Nom. Mus. Heineani Orn., 1890, 146 (Brazil).—CABANIS, Journ. f. Orn., XXXI, 1883, 215, in text (crit.).—DUBOIS, Syn. Avium, I, 1902, 250 (references; range).
- Myiarchus cantans* VON PELZELN, Orn. Bras., ii, 1869, 117, 182 (Rio Janeiro, Sapitiba, Ypanema, and Curytiba [type-locality], Brazil; orig. descr.; types in coll. Vienna Mus.).—VON PELZELN, Nunquam Otiosus, II, 1872, 292 (Neu Freiburg, Brazil).—GIEBEL, Thes. Orn., II, 1875, 660 (ref. orig. descr.).—VON BERLEPSCH, Ibis, 1883, 139, part (crit.).—VON BERLEPSCH and VON IHERING, Zeits. ges. Orn., 1885, 137 (Taquara do Mundo Novo, Rio Grande do Sul, Brazil; crit.).—VON BERLEPSCH, Journ. f. Orn., XXXV, 1887, 118 (Paraguay, ex Azara?).—STEMPELMANN and SCHULZ,

- Bol. Acad. Nac. Cien. Cordoba, X, 1890, 402 (Cordoba, Argentina).—KÆNIGSWALD, Journ. f. Orn., XLIV, 1896, 360 (Estado de São Paulo, Brazil; references).
- Pyrocephalus swainsoni* GRAY, Hand-List Birds, I, 1869, 363 (in list of species).
- Pyrocephalus cantans* GRAY, Hand-List Birds, I, 1869, 363 (in list of species).
- Myiarchus tyrannulus* (not *Muscicapa tyrannulus* Müller) COUES, Proc. Acad. Nat. Sci. Philadelphia, 1872, 71, part (Brazil; crit.).—DURNFORD, Ibis, 1878, 61 (Punta Lara, Argentina).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1879, 616 (Typuani and Tilotilo, Yungas, Bolivia; D'Orbigny's records).—DURNFORD, Ibis, 1880, 418, in text (near Tucumán, Argentina).—WHITE, Proc. Zool. Soc. London, 1882, 608 (Oran, Salta, Argentina).
- Myiarchus tyranninus* (lapsus) ALLEN, Bull. Am. Mus. Nat. Hist., II, 1889, 87 (Mapiri, Bolivia).
- Myiarchus* (lapsus) *ferox* BOUCARD and VON BERLEPSCH, Humming Bird, II, 1892, 45 (Porto Real, Brazil).—HAGMANN, Bol. Mus. Gældi, IV, 1904, 220 (Wied's reference).
- Myiarchus ferox ferocior* (not *Myiarchus ferocior* Cabanis) OBERHOLSER, Proc. Indiana Acad. Sci., 1918, 307 (diag.; range; crit.).
- Myiarchus ferox swainsoni* VON BERLEPSCH, Ornith., XIV, 1907, 477 (in list of species).—OBERHOLSER, Proc. Indiana Acad. Sci., 1918, 307 (diag.; range; crit.).
- Myiarchus ferox cantans* HELLMAYR, Nov. Zool., XVII, 1910, 302, in text (southern Brazil; crit.).

*Subspecific characters.*—Similar to *Myiarchus ferox ferox*, but upper parts lighter, more brownish, and throat and breast slightly paler gray.

*Measurements.*—Male: wing, 87–93 (average, 90.5); tail, 82–91 (86.5); bill, 18–19.5 (18.7); tarsus, 19–22 (21). Female: wing, 83–89 (85); tail, 74–89 (81); bill, 16.5–18 (17.3); tarsus, 18–21 (20).

*Range.*—From central Bolivia and Goyaz, Brazil, southward to the latitude of Buenos Aires, Argentina.

*Remarks.*—The characters distinguishing this southern race from the typical form are precisely those separating *venezuelensis* from the latter. Upon comparison the difference between *swainsoni* and *venezuelensis* proves to be practically *nil*; they are so close that no one would think of formally separating them if their ranges were continuous each with the other, but they are in fact divided by the interposition of the dark form *ferox*, which stretches from Guiana and the lower Amazon to the eastern base of the Andes in Colombia. The only character we can find to separate *swainsoni* from *venezuelensis* is in the color of the pileum, which is slightly more brownish in the former, and more dusky in the latter, but the difference is trifling and not constant—scarcely or not obvious, indeed, except in absolutely fresh plumage. The yellow of the under parts varies considerably in tone; it is much paler and duller in worn specimens.

The early records of this form are involved in much confusion. Certain of Azara's names have been quoted as belonging here, but we think without justification. Burmeister's account is open to question, since he considered

it to be the female of the species with the tail partly rufous, and his description of the nest and eggs is certainly all wrong. Von Pelzeln was satisfied that these color-differences were not sexual, but thought they were due to age, as also did Reinhardt. Meanwhile Cabanis and Heine had described a bird from Brazil under the name *Myiarchus swainsoni*, comparing it with *M. ferox*. No definite locality is mentioned, but in view of the fact that the diagnosis fits the bird of southern Brazil as compared with typical *ferox* we may accept the name for the form under consideration, instead of *cantans* of von Pelzeln, described in 1869. We would suggest Rio Janeiro as the type-locality. Specimens from Paraguay and Argentina are precisely matched by those from Rio Janeiro and São Paulo, so that we can find no ground for distinguishing them, and even if they were separable the name *ferocior* of Cabanis would not be available, since it pertains to a bird of the *M. pelzelni* group. As in other forms of this generic group, old skins are faded as compared with freshly collected material, and this fact must be borne in mind. New specimens in fresh plumage from Bahia are referable to typical *ferox*, while similar skins from Rio Janeiro are obviously *swainsoni*, but no material from the intermediate region has been examined in this connection.

*Specimens examined*.—Brazil: Rio Janeiro, 2; La Raiz (foot of Organ Mts.), 2; S. Carlos do Pinhal, São Paulo, 1; Victoria, São Paulo, 1; Franca, São Paulo, 1; Itapura, São Paulo, 1; Chapada, Matto Grosso, 17; San Lorenzo River, Matto Grosso, 1; Agua Blanca de Corumbá, Matto Grosso, 1; Descalvados, Matto Grosso, 2; unspecified, 2. Argentina: Puerto Segundo, Misiones, 6; Ocampo, Chaco de Santa Fé, 1; Santa Ana, Misiones, 3; Bonpland, Misiones, 2; Aguirre, 2; Las Palmas, Chaco, 2; Resistencia, Chaco, 1; Tapia, Tucumán, 1. Paraguay: Escobar, 1; Puerto Pinasco, 1; Sapucay, 2; Puerto Bertoni, 1. Bolivia: Santa Cruz de la Sierra, 1; Buenavista, 2; Palmarito, 1; Rio Quiser, 1; Rio Surutu, 1; Yungas, 1; Mapiri, 1; Tres Arroyas, Espirito Santo, 1; Todos Santos, Cochabamba, 4. Total, 67.

#### *Myiarchus ferox venezuelensis* Lawrence.

*Myiarchus ferox* (not *Muscicapa ferox* Gmelin) CABANIS, in Schomburgk, Reisen in British-Guiana, III, 1848, 700 (British Guiana).—CABANIS and HEINE, Mus. Heineanum, II, 1859, 73, excl. syn. (Venezuela).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1868, 168 (Venezuela).—SCLATER, Cat. Am. Birds, 1862, 233, part (Trinidad).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 253, part (San Esteban, Venezuela, and Trinidad).—CHUBB, Birds British Guiana, II, 1921, 228 (British Guiana references and localities; descr.).

*Myiarchus venezuelensis* LAWRENCE, Proc. Acad. Nat. Sci. Philadelphia, 1865, 38 (Venezuela; orig. descr.; type in coll. Am. Mus. Nat. Hist.).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1868, 628 (San Esteban, Venezuela), (?) 632 (Tobago; crit.).—FINSCH, Proc. Zool. Soc. London, 1870, 554 (Trinidad, ex Sclater).—ALLEN, Bull. Am. Mus. Nat. Hist., IV, 1892, 347 (crit. on type).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 302 (ref. orig. descr.; range).

*Pyrocephalus venezuelensis* GRAY, Hand-List Birds, I, 1869, 363 (in list of species; range).

*Myiarchus tyrannulus* (not *Muscicapa tyrannulus* Müller) COUES, Proc. Acad. Nat. Sci. Philadelphia, 1872, 71, part (Venezuela; crit. on type).—HEINE and REICHENOW, Nom. Mus. Heineani Orn., 1890, 146 (Venezuela).—SALVIN, Ibis, 1885, 298 (Bartica Grove and Camacusa, British Guiana).

*Myiarchus ferox venezuelensis* VON BERLEPSCH and HARTERT, Nov. Zool., IX, 1902, 51 (Altagracia, Caicara, Perico, and Ciudad Bolivar, Venezuela).—VON BERLEPSCH, Ornith., XIV, 1907, 477 (in list of species).—STONE, Proc. Acad. Nat. Sci. Philadelphia, 1913, 205 (Boca Uracoa and Jocopita, Manimo River, Venezuela).—CHERRIE, Mus. Brooklyn Inst. Sci. Bull., II, 1916, 244 (Ciudad Bolivar and Caicara, Venezuela).—OBERHOLSER, Proc. Indiana Acad. Sci., 1918, 305 (diag.; range; crit.).

*Myiarchus (ferox) venezuelensis* CHAPMAN, Bull. Am. Mus. Nat. Hist., XXXVI, 1917, 475 (Villavicencio, La Morelia, and Florencia, Colombia).

*Subspecific characters.*—Similar to *Myiarchus ferox ferox*, but slightly duller and paler, the upper parts dull brownish olive, the wings and tail rather paler brown, the margins also paler.

*Measurements.*—Male: wing, 86–93 (average, 89); tail, 84–90 (86.5); bill, 18–20.5 (19); tarsus, 20.5–23 (22). Female: wing, 84–88 (86); tail, 80–85 (83); bill, 18–20 (19); tarsus, 19–23 (21.8).

*Range.*—British Guiana and Venezuela, and west to the Andes in Colombia.

*Remarks.*—When Lawrence described his *Myiarchus venezuelensis* he had no specimens of what is now called *ferox* before him, and compared his bird with the type and other examples of *panamensis*, from which it is readily distinguishable by its deeper coloration. The rufous margins of the tail-feathers, however, to which Lawrence alludes, are merely a sign of immaturity. Coues in 1872, with the types of both forms before him, relegated both *panamensis* and *venezuelensis* to synonymy without hesitation, but with the much greater and better material now available we find that the latter is a slightly differentiated race, recognizable by the characters specified above, which hold good throughout the series when compared with *ferox*. A considerable proportion of the specimens examined have more or less conspicuous cinnamon edgings to the wings and tail, indicating immaturity. British Guiana birds are intermediate, but are perhaps best referred here, as are also specimens coming from near the eastern base of the Andes in Colombia, in the Orinoco drainage.

*Specimens examined.*—British Guiana: Bartica Grove, 1. Venezuela: Boca Uracoa, 1; Jocopita, 1; Maripa, 6; La Lajita, 1; Rio Mato, 3; San Felix, 1; El Callao, 2; Altagracia, 1; El Hacha, 1; Ciudad Bolivar, 2; Caicara, 4; Sacupana, 1; La Union, 1; Las Trincheras, 1; Puerto La Cruz, 1; unspecified, 2. Colombia: Villavicencio, 4. Total, 34.

#### ***Myiarchus ferox panamensis* Lawrence.**

*Myiarchus tyrannulus* (not *Muscicapa tyrannulus* Müller) COUES, Proc. Acad. Nat. Sci. Philadelphia, 1872, 71, part (Panama and New Granada);



- crit.).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1879, 515 (Retiro, Concordia, and Santa Elena, Antioquia, Colombia; descr. eggs).—SALVIN and GODMAN, Ibis, 1880, 125 (Santa Marta, Colombia).—OATES and REID, Cat. Birds' Eggs Brit. Mus., III, 1903, 210, pl. 5, fig. 10 (Santa Elena, Antioquia, Colombia; descr. eggs).
- Myiarchus ferox* (not *Muscivaca ferox* Gmelin) SCLATER, Proc. Zool. Soc. London, 1855, 150 ("Bogotá," Colombia).—CASSIN, Proc. Acad. Nat. Sci. Philadelphia, 1860, 143 (Rio Truando, Colombia).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 253, part (Santa Marta, Santa Elena, and "Bogotá," Colombia).—BANGS, Proc. Biol. Soc. Washington, XII, 1898, 137 ("Santa Marta," Colombia).—ALLEN, Bull. Am. Mus. Nat. Hist., XIII, 1900, 142 (Bonda, Colombia).
- Myiarchus ferox panamensis* NELSON, Proc. Biol. Soc. Washington, XVII, 1904, 29 (range).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 640 (Colombian localities and references; descr.; meas.).—OBERHOLSER, Proc. Indiana Acad. Sci., 1918, 306 (range; crit.).—TODD and CARRIKER, Ann. Carnegie Mus., XIV, 1922, 346 (Santa Marta region, Colombia; crit.).
- Myiarchus panamensis* BRABOURNE and CHUBB, Birds S. Am., I, 1912, 302 (ref. orig. descr.; range).
- Myiarchus (ferox?) panamensis* CHAPMAN, Bull. Am. Mus. Nat. Hist., XXXVI, 1917, 475 (Tumaco, Bagado, Malena, Puerto Berrio, Chicoral, and Turbaco, Colombia; local range; crit.).

*Subspecific characters.*—Similar to *Myiarchus ferox venezuelensis*, but still lighter and paler above, the back Saccardo's olive, the pileum more or less shaded with mouse gray, and the margins of the wings and tail generally paler.

*Measurements.*—Male: wing, 87–94 (average, 91.5); tail, 82–91 (87); bill, 17.5–20 (19); tarsus, 22.5–25 (23.5). Female: wing, 83–95(?) (89); tail, 81–87 (86); bill, 17–20.5 (18.5); tarsus, 21–23.5 (22.5).

*Range.*—From Panama to northern and western Colombia, in the Tropical Zone.

*Remarks.*—Compared with typical *ferox* from Guiana *panamensis* is a very distinct race, easily told by its decidedly paler coloration throughout, but Venezuelan specimens are obviously intermediate. It was described by Lawrence in 1860 as a distinct species from Panama skins, but all the more recent authors (except von Berlepsch) agree in considering it a race of *ferox*, with a range extending from Panama into Colombia, where it covers the lowlands of the northern and western parts and the valleys of the Magdalena and Cauca Rivers. Colombian specimens are precisely like a series from Panama.

*Specimens examined.*—Colombia: Bonda, 4; Cautilito, 1; Don Diego, 1; La Tigra, 2; Fundacion, 5; Punto Caiman, 2; Tucurinca, 2; Calamar, 1; Turbaco, 4; Lorica, 1; Gamarra, 2; Aguachica, 1; El Tambor, 1; Sautata, 1; Rio Truando, 1; "Santa Marta," 4; Puerto Berrio, 2; Bagado, 1; Malena, 1; La Herrera, 1; Tumaco, 2. Total, 40.

**Myiarchus cephalotes** Taczanowski.

(?) *Myiarchus ferox* (not *Muscicapa ferox* Gmelin) Tschudi, Arch. f. Naturg., 1844, 273 (Peru; excl. syn.).—Tschudi, Fauna Peruana, Aves, 1846, 153 (descr.).

*Myiarchus cephalotes* TACZANOWSKI, Proc. Zool. Soc. London, 1879, 671 (Paltaypampa, Ropaybamba, and Tambillo, Peru; orig. descr.; type in coll. Warsaw Mus.; crit.; habits).—REICHENOW and SCHALOW, Journ. f. Orn., XXVIII, 1880, 317 (reprint orig. descr.).—TACZANOWSKI, Proc. Zool. Soc. London, 1882, 22 (Chirimoto and Tamiapampa, Peru).—TACZANOWSKI, Orn. Pérou, II, 1884, 322 (Ropaybamba, Paltaypampa, Tambillo, Chirimoto, and Tamiapampa, Peru; descr.; references; crit.; habits).—TACZANOWSKI and VON BERLEPSCH, Proc. Zool. Soc. London, 1885, 93 (Machay, Ecuador).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 254 (Tamiapampa and Chirimoto, Peru; descr.; references).—VON BERLEPSCH and STOLZMANN, Proc. Zool. Soc. London, 1896, 367 (La Merced and Garita del Sol, Peru).—SHARPE, Hand-List Birds, III, 1901, 145 (in list of species; range).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 612, note (crit.).—VON BERLEPSCH, Ornith., XIV, 1907, 477 (in list of species).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 302 (ref. orig. descr.; range).—CHAPMAN, Bull. Am. Mus. Nat. Hist., XXXVI, 1917, 476 (Cerro Munchique, Miraflores, Salento, Santa Elena, Rio Toché, El Eden, La Candela, and La Palma, Colombia; Huánuco, Peru; local range; crit.).—BANGS and NOBLE, Auk, XXXV, 1918, 455 (Tabaconas, Peru).—HELLMAYR, Arch. f. Naturg., LXXXV, 1920, 58 (Chaquimayo, Peru; range; crit.).—CHAPMAN, Bull. U. S. Nat. Mus., No. 117, 1921, 98, part (Prov. Huánuco, Peru).

*Myiarchus swainsoni* var. *cephalotes* DUBOIS, Syn. Avium, I, 1902, 250 (ref. orig. descr.; range).

*Description.*—Above deep olive, the pileum usually darker and browner, with obscure darker centers to the feathers; wings dusky brown, the middle coverts tipped and the greater coverts edged and tipped with deep olive buff; secondaries margined externally with pale chalcedony yellow, in gradually increasing amount, becoming whitish on the inner secondaries (tertiaries); upper tail-coverts and tail dusky brownish, with more or less obvious olivaceous edgings; outer web of the outer rectrix conspicuously paler, cartridge buff; sides of head neutral gray, passing into pallid neutral gray on the throat and breast; rest of under surface and under wing-coverts barium yellow; "iris dark brown; bill and feet black" (Taczanowski).

*Measurements.*—Male: wing, 91–95 (average, 93); tail, 88–93 (91); bill, 17.5–19 (18.5); tarsus, 20.5–22.5 (21.5). Female: wing, 86–91 (87.5); tail, 84–89 (86.5); bill, 16.5–18.5 (17.6); tarsus, 19.5–21.5 (20.7).

*Range.*—Subtropical Zone of the Andean region, from Colombia to Bolivia.

*Remarks.*—This species is easily recognizable by the conspicuously paler, buffy white outer web of the outer tail-feathers, in which respect it differs from all the other South American forms except *M. apicalis*, which, however, is otherwise very different. It was described by Taczanowski in 1879

from specimens collected at Paltaypampa and Ropaybamba by Jelski and at Tambillo by Stolzmann. These localities are in central and northern Peru respectively. A few years later it was reported from Ecuador, and more recently it has been found to be a fairly common species in the Western and Central Andes of Colombia, although not yet detected in the Eastern Andes. It has also been traced southward to Bolivia, specimens from this country being practically indistinguishable from those taken at the northern limit of its range. It is a Subtropical Zone form, not descending below 3,000 feet at the most (not below 5,000 feet, according to Stolzmann), and running up to 9,000 feet. There are two old and faded skins in the collection of the U. S. National Museum (Nos. 101,280-1) labeled "Guayaquil," but which most really have come from the mountains in the interior of Ecuador (cf. Chapman, Bulletin American Museum of Natural History, XXXIV, 1915, 377). No young birds are represented in the series examined, but one specimen shows a little rufous edging on the wings and tail—doubtless remains of the immature dress.

*Habits.*—Stolzmann says that *Myiarchus cephalotes* is a forest species, found in pairs or singly, and is accustomed to perch in the tops of the highest trees, whence it darts out after passing insects. It is one of the least restless of the larger flycatchers, and has a plaintive and prolonged call-note.

*Specimens examined.*—Colombia: El Eden, 1; Rio Toché, 1; Santa Elena, 3; La Candela, 1; Cerro Munchique, 1; Salento, 4; Miraflores, 3. Ecuador: "Guayaquil," 2. Peru: Prov. Huánuco, 1; Santo Domingo, 1; Utcuyacu, Junin, 4; Chelupes, Junin, 3; Tabaconas, 2. Bolivia: Locotal, Cochabamba, 3; Roquefalda, Cochabamba, 1; Vermejo, Santa Cruz, 2. Total, 33.

#### *Myiarchus apicalis* Scater and Salvin.

*Myiarchus apicalis* SCLATER and SALVIN, Ibis, 1881, 269 ("Bogotá," Colombia; orig. descr.; types now in coll. Brit. Mus.).—REICHENOW and SCHALOW, Journ. f. Orn., XXX, 1882, 217 (reprint orig. descr.).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 256 ("Bogotá," Colombia; descr.; references).—SHARPE, Hand-List Birds, III, 1901, 146 (in list of species; range).—DUBOIS, Syn. Avium, I, 1902, 251 (ref. orig. descr.; range).—VON BERLEPSCH, Ornith., XIV, 1907, 477 (in list of species).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 303 (ref. orig. descr.; range).—CHAPMAN, Bull. Am. Mus. Nat. Hist., XXXVI, 1917, 476 (Colombian localities and range).

*Description.*—Above olive or deep olive, purest posteriorly, and passing into brownish dusky on the pileum; wings brownish dusky, the middle coverts tipped and the greater coverts margined and tipped with deep olive buff; inner secondaries externally margined with the same color in gradually increasing amount, becoming sea-foam yellow or whitish on the tertiaries; inner margins of remiges pale yellowish white; tail dusky black, with paler margins, the outer web of the outer rectrix and the tips of all the feathers deep olive buff, the pattern not sharply defined; sides of head grayish dusky, passing into pale olive gray on the throat (this color more strongly

washed with olive on the breast and sides of the neck), and in a more or less "streaky" fashion into baryta yellow on the rest of the under parts and the under wing-coverts; "iris brown; bill and feet black."

*Measurements.*—Male: wing, 89–95 (average, 92); tail, 86–93 (90); bill, 17–20.5 (19); tarsus, 20.5–23 (22). Female (five specimens): wing, 84–92 (86); tail, 80–90 (83.5); bill, 18–19 (18.5); tarsus, 20–23 (22).

*Range.*—Arid Tropical Zone of the upper Magdalena and upper Cauca Valleys in Colombia, reaching the valley of the upper Rio Dagua at Caldas.

*Remarks.*—This is a very distinct form, readily recognized by the pale tips of the rectrices. It was described in 1881 by Sclater and Salvin from "Bogotá" skins in the former's collection, but is still very imperfectly known. As shown by the researches of Messrs. Chapman and Carriker in recent years, it appears to be confined to the arid portion of the inter-Andean Tropical Zone in Colombia, occupying the upper part of the valleys of the Magdalena and Cauca Rivers. From here it has crossed over the Western Andes to the valley of the Rio Dagua, in common with several other species of similar range. Nothing is on record concerning its haunts and habits.

*Specimens examined.*—Colombia: Caldas, 2; Heights of Caldas, 1; Espinal, 1; Bitaco Valley, 2; Pavas, 3; Yumbo, 12; Cali, 2; San Antonio, 3; Las Lomitas, 1; El Consuelo, 1; Chicoral, 1; Honda, 2; "Bogotá," 1; La Maria, 4; Jimenez, 1. Total, 37.

#### *Myiarchus phæcephalus* Sclater.

*Myiarchus phæcephalus* SCLATER, Proc. Zool. Soc. London, 1860, 281 (Babahoyo, Ecuador; orig. descr.; type now in coll. Brit. Mus.).—SCLATER, Cat. Am. Birds, 1862, 233 (Babahoyo, Ecuador).—LAWRENCE, Ann. Lyc. Nat. Hist. N. Y., IX, 1869, 237 (Puna Island, Ecuador).—COUES, Proc. Acad. Nat. Sci. Philadelphia, 1872, 73 (Puna Island, Ecuador; descr.; crit.).—SCLATER and SALVIN, Nom. Avium Neotrop., 1873, 52 (in list of species; range).—GIEBEL, Thes. Orn., II, 1875, 661 (references).—TACZANOWSKI, Proc. Zool. Soc. London, 1877, 326 (Lechugal, Peru).—VON BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. London, 1883, 559 (Guayaquil, Ecuador).—TACZANOWSKI, Orn. Pérou, II, 1884, 323 (Lechugal and Tumbes, Peru; descr.; habits).—VON BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. London, 1885, 93 (Yaguachi, Ecuador), 122 (local range).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 255 (Babahoyo, Santa Rita, and Balzar Mountains, Ecuador; descr.; references).—SALVADORI and FESTA, Bol. Mus. Zool. ed Anat. Comp. Torino, XIV, No. 362, 1899, 13 (Vinces and Balzar, Ecuador; Ecuadorean references; crit.).—SHARPE, Hand-List Birds, III, 1901, 146 (in list of species; range).—DUBOIS, Syn. Avium, I, 1902, 251 (references; range).—VON BERLEPSCH, Orn. XIV, 1907, 477 (in list of species).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 303 (ref. orig. descr.; range).—CHAPMAN, Bull. Am. Mus. Nat. Hist., XXXVI, 1917, 476, in text (western Ecuador; crit.).

*Pyrocephalus phæcephalus* GRAY, Hand-List Birds, I, 1869, 363 (in list of species; range).

*Myiarchus tyrannulus* var. *phæocephalus* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, II, 1874, 330 (diag.).

*Myiarchus ferox phæocephalus* RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 612 (diag.; references).—BANGS and NOBLE, Auk, XXXV, 1918, 455 (Bellavista and Perico, Peru).—OBERHOLSER, Proc. Indiana Acad. Sci., 1918, 306 (diag.; ref. orig. descr.; range; crit.).

*Description.*—Above dull deep olive with a grayish cast, and obscurely mottled with indistinct dusky centers to the feathers; pileum neutral gray, becoming blackish posteriorly from increasing dark centers to the feathers; hindneck and sides of head neutral gray; wings dusky, the lesser coverts like the back, the middle and greater coverts margined and tipped with light grayish olive; the inner primaries and the secondaries margined externally with the same color, paling into whitish or pale yellowish on the tertiaries; remiges with inner margins of pale buffy white; tail dusky brown with narrow paler outer margins and indistinct pale tip; throat and breast light neutral gray; rest of under parts Martius yellow or sulphur yellow, brightest anteriorly, the crissum and under wing-coverts paler; "iris dark brown" (Taczanowski); bill and feet blackish (in skin).

*Measurements.*—Male (five specimens): wing, 89–97 (average, 92.5); tail, 87–94 (90.5); bill, 19.5–22 (20.5); tarsus, 21.5–23.5 (23). Female (five specimens): wing, 83–92 (88.5); tail, 83–91 (87.5); bill, 18.5–20 (19.5); tarsus, 20–23 (21.5).

*Range.*—Tropical Zone of western Ecuador, reaching into extreme north-western Peru.

*Remarks.*—*Myiarchus phæocephalus* was originally described from specimens collected by Fraser at Babahoyo, Ecuador, and it has since been found at sundry other localities on the Pacific slope of Ecuador and northern Peru. In its distinctly grayish pileum, centered with black, it possesses a character not shared by any other South American form of this group, and which by comparison appears to be of specific value. In the coloration of its tail an affinity to *M. apicalis* is suggested, but in any case we are unable to agree with those authors who would make it a race of *M. ferox*. It is known to range northward along the coast as far as Esmeraldas at least, while *M. ferox panamensis* occurs at Tumaco, Colombia, less than one hundred miles away, neither form showing any signs of intergradation at these extremes. According to Stolzmann it is always found in pairs, and is the only tyrant flycatcher in which he had remarked the habit of raising the tail, thus reminding one strongly of a mockingbird. It has also the habit of raising the feathers of the crest, making the head appear almost black.

*Specimens examined.*—Ecuador: Esmeraldas, 1; Coast of Manavi, 2; Santa Rosa, Oro, 3; Puna Island, 4; Loja, 1; Chone, Manavi, 2; Daule, Guayas, 1; Bahia, Manavi, 1; unspecified, 2. Peru: Bellavista, 2; Perico, 2; Palotillas, Piura, 3; Chilaca, Piura, 1. Total, 25.

#### *Myiarchus atriceps* Cabanis.

*Myiarchus* sp. SCLATER and SALVIN, Proc. Zool. Soc. London, 1874, 678 (Cchachupata, Peru).

*Myiarchus nigriceps* (not of Sclater) TACZANOWSKI, Proc. Zool. Soc. London, 1874, 539 (Maraynioc, Paltaypampa, and Pumamarca, Peru); 1879, 235 (Tambillo, Peru).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1879, 616 (Tilotilo, Yungas, Bolivia; crit.).—TACZANOWSKI, Proc. Zool. Soc. London, 1880, 203 (Cutervo and Callacate, Peru); 1882, 22 (Huambo and Tamaipampa, Peru).—TACZANOWSKI, Orn. Pérou, II, 1884, 324, excl. syn. part (Peruvian localities and references; descr.; habits).—SALVIN, Nov. Zool., II, 1895, 12 (Cajabamba and Malea, Peru).

*Myiarchus atriceps* CABANIS, Journ. f. Orn., XXXI, 1883, 215 (St. Xavier, Tucumán, Argentina [type-locality], and Chilpes, Peru; orig. descr.; type in coll. Berlin Mus.).—REICHENOW and SCHALOW, Journ. f. Orn., XXXIV, 1886, 86 (reprint orig. descr.).—SCLATER and HUDSON, Argentine Orn., I, 1888, 157 (descr.; range).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 259 (Cachupata, Peru; Tilotilo, Bolivia; Tucumán, Argentina; diag.; references [part]; crit.).—SHARPE, Hand-List Birds, III, 1901, 146 (in list of species; range).—LILLO, An. Mus. Nac. Buenos Aires, (3), I, 1902, 187 (Tapia, Tucumán, Argentina).—LILLO, Rev. Letras y Cien. Soc. (Tucumán), 1905, p. 17 of reprint (Tafi Viejo and San Javier, Tucumán, Argentina).—VON BERLEPSCH and STOLZMANN, Ornith., XIII, 1905, 113 (Huaynapata, Peru).—HELLMAYR, Nov. Zool., XIII, 1906, 324, in text (crit.).—VON BERLEPSCH, Ornith., XIV, 1907, 477 (in list of species).—DABBENE, An. Mus. Nac. Buenos Aires, (3), XI, 1910, 348 (Argentine range).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 303 ref. orig. descr.; range).—BANGS and NOBLE, Auk, XXXV, 1918, 455 (Tabaconas, Peru).—CHAPMAN, Bull. U. S. Nat. Mus., No. 117, 1921, 99 (Torontoy, Peru).

*Myiarchus nigriceps*. Var. *atriceps* DUBOIS, Syn. Avium, I, 1902, 251 (references; range).

*Myiarchus* [lapsus] *atriceps* GÆLDI, Bol. Mus. Paraense, III, 1902, 293 (Yungas, Bolivia, ex Sclater).

*Myiarchus tuberculifer atriceps* HELLMAYR, Arch. f. Naturg., LXXXV, 1920, 59 (Chuhuasi [7000 ft.], Peru; Jujuy, Argentina; references; crit.).

*Description*.—Above deep olive, with more or less of a grayish shade, especially anteriorly; pileum subcrested, black, passing into dusky gray on the sides of the head and thence into pale neutral gray on the throat and upper breast, and this into the Martius yellow of the rest of the lower surface (including the under wing-coverts); wings dusky black, the secondaries and wing-coverts with grayish brown or buffy olive outer edgings and buffy inner margins below; tail dusky, with outer margins of deep olive like the back, that on the outermost rectrix paler and more buffy; "iris brown; bill and feet black."

*Measurements*.—Male: wing, 86–93 (average, 90); tail, 80–91 (85); bill, 17–19.5 (18.5); tarsus, 18.5–21 (20). Female: wing, 80–87 (85); tail, 75–82 (80); bill, 17–18.5 (17.5); tarsus, 18.5–20.5 (19.5).

*Range*.—Andean region of Peru and western Bolivia, in the Subtropical Zone, south to Tucumán, Argentina.

*Remarks.*—The first specimens of this form to be collected were referred to *M. nigriceps* of Sclater, with which *M. atriceps* agrees well in color, but is an obviously larger bird, as pointed out by Cabanis in the original description. Taczanowski's records from Peru all seem to pertain to *atriceps* also, the description fitting exactly. Mr. Hellmayr has lately proposed to make *atriceps* and *tuberculifer* conspecific, but after an extended comparison of specimens we are satisfied that this arrangement does not correctly represent their real relationships. *M. atriceps* appears to be a Subtropical Zone species, probably taking the place of *tuberculifer* at the higher altitudes, with absolutely no indication of intergradation. It is very imperfectly known, however, and additional data on its habits and distribution is much to be desired.

*Specimens examined.*—Peru: Santo Domingo, 6; Chelupes, Junin, 5; Tabaconas, 2; Inca Mine, 1. Bolivia: Samaipata, 3; Mizque, 1. Argentina: Tafi Viejo, Tucumán, 9; Las Pavas, Tucumán, 1; San Pablo, Tucumán, 1. Total, 29.

***Myiarchus tuberculifer tricolor* von Pelzeln.**

*Myiarchus* sp. SCLATER and SALVIN, Proc. Zool. Soc. London, 1867, 578 (Rio Tocantins, Brazil).—GÆLDI, Bol. Mus. Paraense, I, 1896, 346 (Sclater and Salvin's record).

*Myiarchus tricolor* VON PELZELN, Orn. Bras., ii, 1869, 117, 182 (Rio Janeiro and Sapitiba, Brazil; orig. descr.; types in coll. Vienna Mus.).—VON BERLEPSCH, Ibis, 1883, 140, in text (crit. on type).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 259 (Rio Tocantins and Bahia, Brazil; descr.; references; crit.).—SHARPE, Hand-List Birds, III, 1901, 146 (in list of species; range).—VON BERLEPSCH and HARTERT, Nov. Zool., IX, 1902, 51, part (Sapitiba and Bahia, Brazil).—HAGMANN, Bol. Mus. Gældi, IV, 1904, 89 (von Pelzeln's reference).—SNETHLAGE, Journ. f. Orn., LVI, 1908, 503 (Itaituba, Rio Tocantins, Brazil).—PENARD, Vogels Guyana, II, 1910, 262 (Guiana; descr.).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 303 (ref. orig. descr.; range).—SNETHLAGE, Bol. Mus. Gældi, VIII, 1914, 389 (localities in lower "Amazonia"; descr.).

*Pyrocephalus tricolor* GRAY, Hand-List Birds, I, 1869, 363 (in list of species; range).

*Myiarchus nigriceps* (not of Sclater, 1860) SCLATER and SALVIN, Nom. Avium Neotrop., 1873, 52, part ("Amazonia," in range).—MENE GAUX, Bull. Mus. d'Hist. Nat. Paris, 1904, 118 (l'Ouanary, French Guiana).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 613, part, 650, part (Guiana localities and records).

*Myiarchus (lapsus) tricolor* GÆLDI, Bol. Mus. Paraense, III, 1902, 293 (Rio Tocantins, ex Sclater).

*Myiarchus nigriceps* var. *tricolor* DUBOIS, Syn. Avium, I, 1902, 251 (ref. orig. descr.; range).

*Myiarchus tuberculifer* (not *Tyrannus tuberculifer* D'Orbigny and Lafresnaye) HELLMAYR, Nov. Zool., XII, 1905, 293 (Igarapé-Assu, Pará, Brazil; crit.); XIII, 1906, 323, part (crit. on type, etc.).—VON IHERING, Aves do Brazil, 1907, 294, part (range).—HELLMAYR, Proc. Zool. Soc.

London, 1911, 1137, in text, part (crit.).—HELLMAYR, Abhand. Bayerischen Akad. Wiss., Math.-phys. Kl., XXVI, 1912, 90 (Igarapé-Assu, Pará, Brazil).—BEEBE, Zoologica, II, 1916, 64, 90 (Pará, Brazil; habits). *Myiarchus tuberculifer tricolor* VON BERLEPSCH, Ornith., XIV, 1907, 477 (in list of species).

*Myiarchus tuberculifer tuberculifer* HELLMAYR, Nov. Zool., XVII, 1910, 302 (Marmellos and Borba, Brazil).

*Subspecific characters.*—Similar to *Myiarchus tuberculifer tuberculifer*, but general coloration duller, the upper parts plain olive, becoming deeper (near olivaceous black No. 1 of Ridgway) on the pileum, which is therefore less strongly contrasted with the back; and gray of throat and breast deeper (pale neutral gray).

*Measurements.*—Male (seven specimens): wing, 79–83 (81); tail, 67–74 (71); bill, 16–18 (17); tarsus, 18–19 (18.5). Female: wing, 72–76 (74); tail, 65–70 (67); bill, 15–17 (16); tarsus, 17–19 (18).

*Range.*—From French Guiana southward through Brazil at least to Rio Janeiro, and westward for an indeterminate distance.

*Remarks.*—This form is based on specimens from Rio Janeiro, from which unfortunately no topotypical specimens are available at this writing. Mr. Hellmayr, however, has critically examined the types in the Vienna Museum, and finds them practically the same as specimens of *tuberculifer* from other parts, being merely a little smaller. He is very doubtful of the propriety of recognizing *tricolor* as a subspecies, but with the fresh material from the lower Amazon Valley now in hand we have no difficulty in separating it by the comparative characters specified above. There is one specimen in the collection of the Gœldi Museum (No. 1296) marked as agreeing with the type of *tricolor* (except for the wing-coverts being a little lighter), so that we feel fairly safe in referring the whole series examined to this form. None of those measured run as small as the types, but this may be due to the possibly more worn condition of the latter, only birds in fresh plumage having been measured in our own series. It is not at all surprising that the type-specimens fail to show the differential color-characters of the form, since these require a series in order to bring them out clearly, and the types may have faded considerably in the hundred years since they were collected. French Guiana birds vary slightly in the direction of *tuberculifer*, but are best referred here; British Guiana specimens, however, are difficult to place. The present race varies from the typical form in an opposite direction from *nigriceps*.

*Specimens examined.*—French Guiana: Mana, 5; Pied Saut, 2. Brazil: Oncoupi Island, 1; Benevides, 2; Santarem, 7; Colonia do Mojuy, 3; Villa Braga, 4; Itaituba, 2; Obidos, 6; Pedroira, Pará, 1; Marco da Legua, Pará, 1; Utinga, Pará, 1; "Insel im Rio Iriri," 1; Boim, Rio Tapajoz, 1; Faro, Rio Jamunda, 2; Chapeu Virado, Mosqueiro, 1. Total, 50.

*Myiarchus tuberculifer tuberculifer* D'Orbigny and Lafresnaye.

*Tyrannus tuberculifer* D'ORBIGNY and LAFRESNAYE, Mag. de Zool., 1837, Synopsis Avium, 43 (Guarayos, Bolivia; orig. descr.; type in coll. Paris



- Mus.).—D'ORBIGNY, Voy. Am. MÉR., Oiseaux, 1844, 307, pl. 32, figs. 1, 2 (Chiquitos, Moxos, and Guarayos, Bolivia; descr.).
- Myiarchus tuberculifer* CABANIS, Arch. f. Naturg., 1847, 248 (in list of species).—GIEBEL, Thes. Orn., II, 1875, 662 (references).—VON BERLEPSCH, Ibis, 1883, 141, in text (crit.).—VON BERLEPSCH, Journ. f. Orn., LXXXII, 1884, 304 (Bucaramanga and "Bogotá," Colombia; Puerto Cabello, Venezuela; Trinidad; crit.).—CHAPMAN, Bull. Am. Mus. Nat. Hist., VI, 1894, 43, excl. syn. part (Princestown, Trinidad; Merida, Venezuela; crit.).—PHELPS, Auk, XIV, 1897, 365 (San Antonio, Bermudez, Venezuela).—HELLMAYR, Nov. Zool., XIII, 1906, 26 (Caparo and Aripo, Trinidad; range [part]; crit.), 323, part (crit. on type).—VON IHERING, Aves do Brazil, 1907, 294, part (range).—VON BERLEPSCH, Ornith., XIV, 1907, 477 (in list of species).—HELLMAYR, Proc. Zool. Soc. London, 1911, 1137, in text, part (range; crit.).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 303 (ref. orig. descr.; range [part]).
- Myiobius tuberculifer* GRAY, Gen. Birds, I, 1847, 248 (in list of species; references).
- Tyrannula tuberculifer* BONAPARTE, Consp. Avium, I, 1850, 190 (in list of species).
- Myiobius nigriceps* (not *Myiarchus nigriceps* Sclater) LEOTAUD, Ois. Trinidad, 1866, 231 (Trinidad; descr.; habits).
- Myiarchus nigriceps* SCLATER and SALVIN, Proc. Zool. Soc. London, 1868, 168 (Caripé, Venezuela).—WYATT, Ibis, 1871, 333 (Herradura, etc., Colombia).—SCLATER and SALVIN, Proc. Zool. Soc. London, 1875, 234 (Merida, Venezuela).—SALVIN and GODMAN, Ibis, 1880, 125 (Minca, Colombia).—HEINE and REICHENOW, Nom. Mus. Heineani, Orn., 1890, 146 ("Bogotá," Colombia).—SALVIN, Ibis, 1885, 298 (Camacusa, Merumé Mts., and Roraima [3500 ft.], British Guiana).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 258, part (Herradura, Minca, and "Bogotá," Colombia; Merida and San Esteban, Venezuela; Roraima, British Guiana; and Yquitos, Peru).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, II, 1889, 96, part (range; references).—BANGS, Proc. Biol. Soc. Washington, XII, 1898, 137 ("Santa Marta," Colombia), 158 (Pueblo Viejo, Colombia), 176 (Palomina and San Miguel, Colombia).—ALLEN, Bull. Am. Mus. Nat. Hist., XIII, 1900, 143 (Minca, Onaca, Las Nubes. Cacagualito, and Valparaiso, Colombia).—SHARPE, Hand-List Birds, III, 1901, 146, part (range).—DUBOIS, Syn. Avium, I, 1902, 251, part (range; references).—GÆLDI, Bol. Mus. Paraense, III, 1902, 293 (Sarayácu, Ecuador, and Yquitos, Peru, ex Sclater).—NELSON, Proc. Biol. Soc. Washington, XVII, 1904, 49 (Colombia).—THAYER and BANGS, Bull. Mus. Comp. Zool., XLVI, 1905, 153, in text (San Miguel, Colombia).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 613, 650, part (descr.; range; references).—PENARD, Vogels Guyana, II, 1910, 262 (Guiana; descr.).—BEEBE, Zoologica, II, 1919, 232 (Bartica District, British Guiana).—CHUBB, Birds British Guiana, II, 1921, 230 (British Guiana references and localities; descr.).
- (?) *Myiarchus gracilirostris* VON PELZELN, Orn. Bras., ii, 117, 183 (Villa Maria, Matto Grosso, Brazil; orig. descr.; type in coll. Vienna Mus.).—

- GIEBEL, Thes. Orn., II, 1875, 661 (ref. orig. descr.).—VON BERLEPSCH, Ibis, 1883, 140 (crit.).
- Pyrocephalus tuberculifer* GRAY, Hand-List Birds, I, 1869, 362 (in list of species; range).
- (?) *Pyrocephalus gracilirostris* GRAY, Hand-List Birds, I, 1869, 363 (in list of species; range).
- Myiarchus coalei* RIDGWAY, Proc. U. S. Nat. Mus., IX, 1886, 520 (Orinoco Valley?; orig. descr.; type in coll. U. S. Nat. Mus.).
- Miyarchus* (lapsus) *nigriceps* GÆLDI, Bol. Mus. Paraense, III, 1902, 293 (Sarayácu and Yquitos, Peru, ex Sclater).
- Myiarchus tricolor* (not of von Pelzeln) VON BERLEPSCH and HARTERT, Nov. Zool., IX, 1902, 51, excl. extralimital localities and references (Quiribana de Caicara and Nericagua, Venezuela; crit.).
- Myiarchus tuberculifer tuberculifer* HELLMAYR and VON SEILERN, Arch. f. Naturg., LXXVIII, 1912, 85 (Cumbre de Valencia and Las Quiguas, Venezuela; range; crit.).—CHERRIE, Mus. Brooklyn Inst. Sci. Bull., II, 1916, 244 (Caicara, Quiribana de Caicara, and Nericagua, Venezuela).—CHAPMAN, Bull. Am. Mus. Nat. Hist., XXXVI, 1917, 477 (Buena Vista and "Santa Marta," Colombia; crit.).—BANGS and PENARD, Bull. Mus. Comp. Zool., LXII, 1918, 79 (Lelydorp, Dutch Guiana).—HELLMAYR, Arch. f. Naturg., LXXXV, 1920, 59, in text (crit.).—TODD and CARRIKER, Ann. Carnegie Mus., XIV, 1922, 345 (Santa Marta region, Colombia; plum.; crit.).
- Myiarchus tuberculifer nigriceps* CHAPMAN, Bull. Am. Mus. Nat. Hist., XXXVI, 1917, 477, part (Andalucia, Colombia).

*Description.*—Above between deep olive and citrine drab, passing into dusky black on the pileum, and into grayish on the sides of the head and neck; wings brownish black, the upper coverts broadly tipped and the secondaries externally margined with dark olive buff, becoming yellowish on the tertiaries; inner margins of remiges pale buffy; upper tail-coverts and tail deep brown, with slight olivascens or rufescent edgings; throat and breast pallid neutral gray; rest of under surface barium yellow, paler on the sides, crissum, and under wing-coverts; "iris brown; bill and feet black."

In worn plumage all the colors are paler and duller; the yellow below fades and the olive buff edgings on the wings become grayish. In juvenal and first winter dress the remiges and rectrices are prominently edged with ochraceous tawny, which makes the species look very much like some of its allies. Spring specimens may even show traces of this rusty color. In juvenal dress, illustrated by specimens No. 9,250 and 37,672, Collection Carnegie Museum, the yellow below is very pale, the under tail-coverts buffy-tinged, and the back dull dusky olive, with the pileum darker, but less strongly contrasted than in the adult.

*Measurements.*—Male (twenty specimens): wing, 76–84 (average, 81); tail, 69–78 (75); bill, 16–18 (17); tarsus, 18–20 (19). Female (twenty specimens): wing, 71–80 (75.5); tail, 65–76 (69); bill, 16–18 (16.8); tarsus, 17–19.5 (17.5).

*Range.*—From Dutch and British Guiana and Venezuela to northern

Colombia (including the Magdalena Valley), and thence south (east of the Andes) to central Bolivia.

*Remarks.*—This form was described from Guarayos, eastern Bolivia, the type being still extant in the Paris Museum. It was long confused with the *M. nigriceps* of Selater from western Ecuador, even after von Berlepsch in 1883 had suggested and Mr. Hellmayr in 1906 definitely determined the true application of the name from an examination of the type. This author was able to also compare at the same time the types of von Pelzeln's *M. tricolor* and *M. gracilirostris*, and came to the conclusion that all three belonged to the same form. In the case of the latter he is probably correct, on geographical grounds at least, but *M. tricolor* seems to be recognizably distinct, although conspecific, as already shown. We can find no difference between a series from Bolivia on the one hand and one from Venezuela on the other, and these in their turn are the same as a series from Colombia. A specimen from Trinidad belongs here also, but British and Dutch Guiana birds are intermediate between this form and *tricolor*, and might be referred as easily to the one form as to the other. In its vertical range it goes up to the upper limit of the Tropical Zone and sometimes a little beyond. It appears to be confined to the region just east of the Andes, except in Venezuela and Colombia, where it has succeeded in passing around their northern extremity and invading the low country beyond, grading into *nigriceps* in western Colombia. Dr. Chapman refers his specimens from below Andalucia, in the Eastern Andes of Colombia, to *nigriceps*, but we think that they, as well as the series from the Magdalena Valley in the collection of the Carnegie Museum, go better with *tuberculifer*. All these, being in fresh plumage, are a little darker than usual, but no more so than Bolivian skins.

In coloration *tuberculifer* is intermediate between *tricolor* on the one hand and *nigriceps* on the other, as might be expected from its geographical position. The cap is brownish or dusky black, not deep black as in *nigriceps*, but darker than in *tricolor*, and more strongly contrasted with the rest of the upper surface. The two small tubercles on the edge of the wing, from which the name *tuberculifer* is derived, are not peculiar alone to this species, however.

*Specimens examined.*—Trinidad: Princetown, 1. British Guiana: Carimang River, 1; Roraima (3500 ft.), 1. Dutch Guiana: Lelydorp, 1; vicinity of Paramaribo, 1. Venezuela: La Cumbre de Valencia, 3; Aroa, 1; Lagunita de Aroa, 2; Guarico, 1; Anzoategui, 4; El Trompillo, 1; Sierra de Carabobo, 9; Merida, 6; "Orinoco" (?), 1; Caicara, 3; Quiribana de Caicara, 1; San Antonio, Bermudez, 2; El Guacharo, 1; Escorial, 1; Cristobal Colon, Paria Peninsula, 1; Las Trincheras, 2. Colombia: Jordan, 1; Cacagualito, 1; Minca, 4; Bonda, 1; Cincinnati, 16; La Tigrera, 4; Las Vegas, 1; Don Diego, 13; Pueblo Viejo, 2; Fundacion, 2; Jaraquiel, 1; El Cauca, 5; La Palmita, 1; Ocaña, 3; El Tambor, 1; Rio Negro, 3; Palmar, 1; La Colorada, 1; "Santa Marta Mts.," 2; San Miguel, 1; Palomina, 2; San Francisco, 1; La Concepcion, 6; Andalucia, 3; Buena Vista, 2. Bolivia: Rio Yapacani, 2; Buenavista, 1; Rio Surutu, 6; Cerro del Chimbero, 1; Mission San Antonio, Rio Chimore, Prov. Cochabamba, 1; Roquefalta, Prov. Cochabamba, 1; Mouth of Rio San Antonio, Rio Espirito Santo, 1. Total, 137.

***Myiarchus tuberculifer nigriceps* Sclater.**

- Myiarchus nigriceps* SCLATER, Proc. Zool. Soc. London, 1860, 68 (Pallatanga, Ecuador; orig. descr.; type now in coll. Brit. Mus.), 295 (Esmeraldas, Ecuador).—SCLATER, Cat. Am. Birds, 1862, 234 (Pallatanga and Esmeraldas, Ecuador).—COUES, Proc. Acad. Nat. Sci. Philadelphia, 1872, 75 (Quito, Ecuador; Sclater's references; descr.; crit.).—SCLATER and SALVIN, Nom. Avium Neotrop., 1873, 52, part (Ecuador and Colombia, in range).—GIEBEL, Thes. Orn., II, 1875, 661, part (ref. orig. descr.).—SALVIN, Cat. Strickland Coll., 1882, 316 (Sclater's reference; crit.).—VON BERLEPSCH, Ibis, 1883, 140, in text (range; crit.).—VON BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. London, 1883, 559 (Chimbo, Ecuador).—VON BERLEPSCH, Journ. f. Orn., XXXII, 1884, 304, in text (range; crit.).—VON BERLEPSCH and TACZANOWSKI, Proc. Zool. Soc. London, 1884, 297 (Bugnac, Ecuador).—SCLATER, Cat. Birds Brit. Mus., XIV, 1888, 258, part (localities in western Ecuador; descr.; references).—SALVIN and GODMAN, Biol. Centr.-Am., Aves, II, 1889, 96, part (references; range).—HARTERT, Nov. Zool., V, 1898, 488 (Chimbo and Paramba, Ecuador).—SALVADORI and FESTA, Bol. Mus. Zool. ed Anat. Comp. Torino, XIV, No. 362, 1899, 13 (La Concepcion and Niebli, Ecuador; references).—GOODFELLOW, Ibis, 1901, 707 (Intag and Gualea, Ecuador).—SHARPE, Hand-List Birds, III, 1901, 146, part (in list of species; range).—DUBOIS, Syn. Avium, I, 1902, 251, part (references; range).—HELLMAYR, Nov. Zool., XIII, 1906, 26, part (localities in Ecuador), 324, part (crit.).—RIDGWAY, Bull. U. S. Nat. Mus., No. 50, IV, 1907, 613, 650, part (references; range).—VON BERLEPSCH, Ornith., XIV, 1907, 477 (in list of species).—MENECAUX, Mission Service Geog. Mes. Arc. Méridien Equat. Amér. du Sud, IX, i, 1911, B 58 (Gualea and Santo Domingo, Ecuador; references).—HELLMAYR, Proc. Zool. Soc. London, 1911, 1137 (Pueblo Rico and Noanama, Colombia; crit.).—BRABOURNE and CHUBB, Birds S. Am., I, 1912, 303 (ref. orig. descr.; range).
- Pyrocephalus nigriceps* GRAY, Hand-List Birds, I, 1869, 363 (in list of species; range).
- Myiarchus lawrencii* var. *nigriceps* RIDGWAY, Am. Journ. Sci. and Arts, (3), IV, 1872, 455 (crit.).
- Myiarchus tristis* var. *nigriceps* BAIRD, BREWER, and RIDGWAY, Hist. N. Am. Birds, II, 1874, 333 (diag.; range; crit.).
- Myiarchus tuberculifer nigriceps* HELLMAYR and VON SEILERN, Arch. f. Naturg., LXXVIII, 1912, 85, in text (range; crit.).—CHAPMAN, Bull. Am. Mus. Nat. Hist., XXXVI, 1917, 477 (Alto Bonito, Dabeiba, Juntas de Tamaná, San José, Rio Frio, and Cali, Colombia; Ecuador; crit.).—HELLMAYR, Arch. f. Naturg., LXXXV, 1920, 59, in text (range; meas.; crit.).

*Subspecific characters.*—Similar to *Myiarchus tuberculifer tuberculifer*, but upper parts brighter green (near olive citrine), pileum deeper black, sides of head darker, and under parts averaging brighter yellow.

*Measurements.*—Male: wing, 73–81 (average, 77.5); tail, 67–77 (72);

bill, 15.5–17.5 (17); tarsus, 18–19.5 (18.6). Female (eight specimens): wing, 69–79 (75); tail, 66–72 (70); bill, 16–17.5 (17); tarsus, 17–19 (18).

*Range.*—Pacific slope of western Colombia and western Ecuador.

*Remarks.*—The above diagnosis is based on specimens from Ecuador. Birds from western Colombia are not typical, varying as they do in the direction of *tuberculifer*; some of them, indeed, considered alone, could readily be referred to that form, but the series as a whole is nearer the Ecuador race. The evidence for the occurrence of *nigriceps* in Peru is not at all conclusive. No specimens have been examined by us from that country, and practically all the published records are for localities lying at elevations falling within the confines of the Subtropical Zone, as also indicated by the general character of their bird life. It is true that in Colombia and Ecuador *nigriceps* ascends to the upper limit of the Tropical Zone and even beyond, but it is certainly significant that there are no records for the low country in Peru. On geographical grounds alone, therefore, we feel justified in placing all the supposed Peruvian records for *nigriceps* under *atriceps*, and an examination of Taczanowski's description and general account (the measurements in particular) seems to confirm this view. Mr. Hellmayr, it is true, says that he can find no difference between a pair of birds from Cajabamba, Peru, and others from western Ecuador, except in size—which may be significant. Taking birds in fresh unworn plumage alone, and only those to the authenticity of whose sexing there is no doubt attaching, there is a gap in size between *nigriceps* and *atriceps* which is very apparent. The present form is clearly only subspecifically related to *tuberculifer*, the range of which it touches in northwestern Colombia, and with which it agrees well in size. It has escaped synonyms, since the *brunneiceps* of Lawrence, based on the bird of Panama, is recognizably distinct, having the pileum more brownish, less blackish, and the upper parts brighter.

*Specimens examined.*—Colombia: Murindo, 2; Cordoba, 4; Yumbo, 1; San José, 2; Cali, 1; Juntas de Tamana, 1; Rio Frio, 2; Dabeiba, 2; Alto Bonito, 2; San Luis, Bitaco Valley, 1; near Pavas, 1. Ecuador: "Quito," 2; Intag, 1; Esmeraldas, 2; Chone, Manavi, 1; Gualea, 1; Zamora, 1; Zaruma, 3; Huigra, Chimbo, 2; Pagma Forest, Chunchi, 1; Hacienda Jalancay, Chunchi, 1; Junction Chanchan and Chiguanca Rivers, 1; Bucay, 1. Total, 36.